

PERIODICALS

PUBLIC LIBRARY

FEB 3 - 1939

DETROIT

# AMERICAN BEE JOURNAL



FEBRUARY 1939

BEESWAX PRODUCTION IN  
TANGANYIKA TERRITORY  
—L. WILSON GREENE

A COMPACT EXTRACTING PLANT

OBSTACLES TO MARKETING  
P. C. CHADWICK

WORK IN THE HONEY HOUSE  
—E. L. SECHRIST

## THOUSANDS OF USERS Endorse STANDARD Equipment



### Superior Bee Smokers

High quality, dependable Bee Smokers to give you greatest satisfaction. The powerful bellows are made of heavy sheepskin, securely bound and fastened. The grate is of extra heavy steel for longer life. The Superior Bee Smokers are designed for easy handling and to discharge smoke in proper direction in use.

$3\frac{1}{2}'' \times 7''$  Bee Smokers, tin .95c

### DOUBLE DUTY EXTRACTORS

EXTRACT COMBS AND DRY CAPPINGS

Size	Pockets	Weight	Hand Drive	Power Drive
3-Frame	$9\frac{1}{2}'' \times 16''$	40 lbs.	\$13.35	\$18.85
3-Frame	$12\frac{1}{2}'' \times 16''$	50 lbs.	14.90	20.40
4-Frame	$9\frac{1}{2}'' \times 16''$	50 lbs.	14.35	19.85

#### NOTE THESE LOW PRICES

24-Frame Radials	<b>\$78.00</b>	Steam Heated Knives, $10\frac{1}{2}''$	<b>\$4.35</b>
2-Frame Reversibles	<b>21.50</b>	2-Gal. Steam Boiler	<b>2.50</b>
Bee Smokers, $3\frac{1}{2}'' \times 7''$ , tin	.95	Hive Tools— $8''$ <b>45c</b> — $10''$ <b>.50</b>	
$8\frac{1}{2}''$ Plain Uncapping Knife	<b>1.10</b>	Bee Escapes, <b>11</b> c ea. or 12 for <b>1.15</b>	
$10\frac{1}{2}''$ Pln. Uncapping Knife	<b>1.25</b>	Wire Embedders	<b>.20</b>

ASK YOUR DEALER—if he cannot supply you—write us. Catalog Free.

DEALERS—Write for your supply of Standard Folders with your name imprinted.

60 Years of Service Your Guarantee of Quality

THE STANDARD CHURN COMPANY WAPAKONETA, OHIO

## Package Bees and Queens?

SURE that is our only business. We can furnish any number of either Imported or Domestic stock. Our imported strain has proved its superiority in the honey field this past season. They are more easily wintered than the average bee and will store more honey in the supers.

We are prepared to offer you Quality, Service, and Uniform, Full-weight packages with either LOOSE (Introduced) or CAGED queens, that are sure to please, with

NO CHANGE IN BASE PRICES  
QUANTITY DISCOUNTS

A card will put you on our regular mailing list

**ROSSMAN & LONG**  
P. O. Box 133      Moultrie, Georgia

TREAT YOURSELF TO THE BEST WITH

## KNIGHT'S

LEATHER-COLORED ITALIAN

## Bees and Queens

They are the best honey gatherers, the best winterers and reasonably gentle.

2-lb. packages including queens	<b>\$2.45</b>
3-lb. packages including queens	<b>3.15</b>
4-lb. packages including queens	<b>3.85</b>
5-lb. packages including queens	<b>4.55</b>

For queenless packages, deduct 75c.

Write for delivered prices via parcel post.

## QUEENS

Guaranteed mated pure, select, 75c. No charge for clipping.

15% discount to dealers. Full weight with young bees.

**Jasper Knight**  
Hayneville, Ala.

**1898**

**1939**

## Here It Is . . .

Our 41st year in the Beekeeping industry, and we are offering LOWER PRICES than ever before. Prices that are sure to save you money, even though the quality is of the same high standard. Lotz Sections, of excellent quality and workmanship have stood the test of time for 36 years.

Our 1939 catalog, which will soon be ready, will prove to you the reduction in prices. Let us serve you! Order your supplies now! And—be sure to get your 1939 Catalog at once.

If you are not on the mailing list  
write for your free catalog.

**August Lotz Company**  
BOYD, WISCONSIN

# AMERICAN BEE JOURNAL

*The Oldest Bee Journal in the English Language*

ESTABLISHED BY SAMUEL WAGNER IN 1861

Copyright 1939. Published monthly at Hamilton, Illinois. Entered as Second Class Matter at the Postoffice at Hamilton, Illinois. G. H. Cale, Frank C. Pellett, M. G. Dadant, Editors; James C. Dadant, Circulation Manager. In United States, Canada, and Mexico \$1.00 a year; two years \$1.50; three years \$2.00. Foreign \$1.25 a year; two years \$2.00; three years \$2.75. Subscription stopped at expiration printed on wrapper.



## CONTENTS

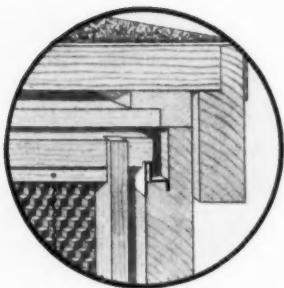
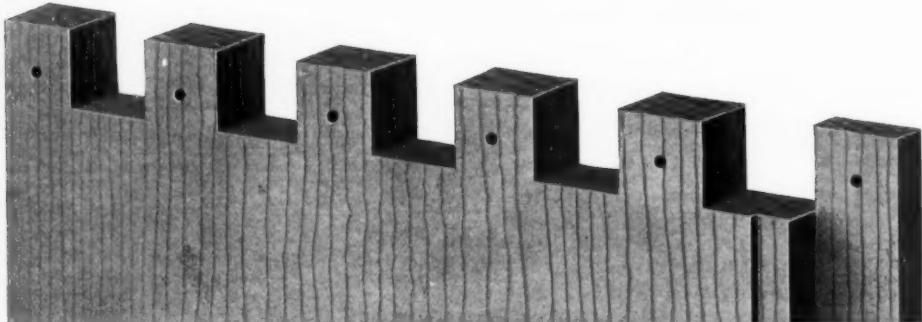
### MONTH OF FEBRUARY, 1939

Editorial	61	A Compact Extracting Plant	76
Down to the Sea with Beeswax —J. T. MacMillan	64	Honey as a Health Food—Penn G. Snyder	78
Honey Getting—Work in the Honey House —E. L. Sechrist	67	Beekeeping in the Land of the Pyramids —M. J. Presswalla	80
Obstacles to Marketing—P. C. Chadwick	71	The Editor's Answers	85
Beeswax Production in Tanganyika Territory—L. Wilson Greene	72	Meetings and Events	87
Improving the Distribution of Honey Through Advertising—H. E. Coffey	75	Crop and Market Report—M. G. Dadant	97
		The Postscript—Frank C. Pellett	102

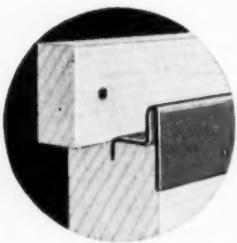
## INDEX TO DISPLAY ADVERTISERS

Alabama Apiaries	95	John A. Crummey	99	Iverson Honey Co.	97	Puett Co.	90
Allen's Apiaries	99	J. M. Cutts & Sons	94	R. D. Jenkins	92	A. I. Root Co. of Chicago	100
American Bee Journal, 101, Inside back cover.		Dadant & Son	58	Jensen's Apiaries	94	A. I. Root Co. of Iowa—Inside front cover.	
American Honey Institute	56	Daniels Apiaries	95	Jewett & Sherman	97	A. I. Root Co. of Ohio	92, Back cover.
American Pigeon Journal	95	Davis Bros.	91	Walter T. Kelley Co.	57	Rossman & Long	Inside front cover.
American Rabbit Journal	99	Joseph Dusek & Co.	100	Jasper Knight	Inside front cover.		
Australasian Beekeeper	99	Flanagan Supply Co.	99	Koehnen Apiaries	98	A. H. Rusch & Son	99
Jay Baker Apiaries	95	Flowers Bee Co.	92	R. E. LaBarre	99	Geo. E. Smith	93
Banta & Wire	Inside back cover.	W. J. Forehand & Sons	100	G. B. Lewis Co.	60	St. Romain's Honey Girl	
Beekeepers Item	94	Garon Bee Co.	56	August Lotz Co.	Inside front cover.	Apiaries	90
Bell Apiaries	99	J. L. Gasparid	95	Louisiana Comb Shippers Ass'n.	96	Standard Churn Co.	Inside front cover.
Blue Bonnet Apiaries	93	W. O. Gibbs	95	Lucedale Apiaries	92	Stevenson's Apiaries	92
Bolling Bee Co.	92	C. O. Gilbert	92	Herman McConnell	94	Stover Apiaries	55
Bond Apiaries	93	Goat World	98	J. F. McVay	93	Sunkist Bee Co.	89
Brock Store	95	Great Northern Railway Co.	94	Marshfield Mfg. Co.	Inside back cover.	Superior Honey Co.	96
Jim Brown	93	Graydon Bros.	94	Merrill Bee Co.	100	Taylor Apiaries	93
Thos. C. Burleson	100	Guilford Apiaries	100	Harry G. Meyers	100	Victor Apiaries	94
T. W. Burleson & Son	95	Gulf Coast Bee Co.	100	Middle Tennessee Apiaries	93	Weaver Apiaries	92
Calvert Apiaries	100	Phil Hankammer Hdwe. Co.	100	F. W. Muth Co.	57	P. M. Williams & Sons	100
Caney Valley Apiaries	92	Hazel-Atlas Glass Co.	89	Overbey Apiaries	101	Al. Winn	99
Citronelle Bee Co.	92	Highland Apiaries	94	Owens-Illinois Glass Co.	91	A. G. Woodman Co.	93, 96
Clutter Publications	94	S. P. Hodgson & Sons	94, 96	Morley Pettit	91	York Bee Co.	57
Coffey Apiaries	95	Holder Apiaries	96				
Crowville Apiaries	94	A. J. Hoot & Co.	99				

# BORED DOVETAILS



Metal covers have heavy roof boards. Above cut shows hive cross section.



Each Lewis body rabbeted so metal frame rest sets into kerf smoothly.

WOULD you like to nail up all your hive bodies hereafter without danger of splitting? Then buy Lewis Beeware. All 10-frame equipment shipped from Watertown, Hamilton, or any Lewis branch warehouse in 1939, will contain only bodies with dovetails bored. In setting up, you just tap the special nails into the holes where they fit snugly, then whang away.

Just as fast as possible in 1939 we will also supply Modified Dadant and 8-frame bodies and the rims of metal covers bored for nailing. However we will have to move out some of our present stock before we can guarantee bored dovetails on other than the 10-frame bodies.

Probably no improvement in Beeware in recent years has been of more importance. It has required the building of a special machine to do this work and a special effort to be able to offer the dovetails bored on 10-frame bodies without reservation. You can now nail up bodies faster without splitting out dovetails if you buy Lewis Beeware.

Prices on Lewis bodies, frames, sections, and most important items of wood, as well as Dadant's Foundation are lower for 1939. You get more for less money.

*Ask for your copy of the 1939 catalog, now ready*

HONESTLY MADE

HONESTLY SOLD

HONESTLY PRICED

# LEWIS BEEWARE

STANDARD OF THE BEEKEEPING WORLD

G. B. LEWIS COMPANY

Established 1863

HOME OFFICE AND WORKS: WATERTOWN, WISCONSIN

BRANCHES:

ALBANY, N. Y.

LYNCHBURG, VA.

SPRINGFIELD, OHIO

SIOUX CITY, IOWA

# American Bee Journal

Vol. LXXIX—No. 2

Hamilton, Illinois, February, 1939

Monthly, \$1.00 a year

## Continue the Southern Conference

THERE has been a little agitation to discontinue the Southern Conference and to merge it with the national organization, the American Honey Producers League. To us, the Southern Conference has a very definite field in serving the honey producers and package shippers of the South. Only about one year in four or five can the national organizations be expected to meet in the South, as all sections should be served, and in the odd years beemen of the South would be without a meeting to discuss their problems with each other and with their northern visitors and customers.

In addition to its value to the industry, the Conference is a pleasant social occasion, attracting, as it does, a large number of beekeepers' wives. Their presence adds greatly to the ease and sociability with which the meetings are conducted.

On to Vicksburg in 1939.

ABJ

## Winter Round-up in Florida

ATTENTION is called to the announcement elsewhere in this issue of the winter round-up of beekeepers to be held in Largo, Florida, Tuesday, February 21. In 1938 the writer had the privilege of attending this meeting which, although it had not been greatly advertised, drew a large group of interested beekeepers. At that time it was planned to give more publicity to the 1939 meeting, in order that visitors to Florida, especially, might be able to plan to attend.

The annual round-up of beekeepers which is held at Newport, Indiana each fall has been very successful for several years. The Florida round-up will probably draw beekeepers from even a greater number of states and will provide a splendid opportunity for the exchange of ideas. The Tampa fair, which is held near by, is renowned for its wonderful exhibit of honey and honey products. Our readers living in Florida or visiting Florida at the time of this round-up are urged to help make its attendance record-breaking.

ABJ

## Signs of the Times

SUNDAY newspapers recently carried a long story of the researches of Dr. Paul H. Belding into the causes of tooth decay. It is an interesting story and indicates that the present day diet is largely responsible.

In order to study the speed of fermentation and the amount of

"Bees in the Garden and Honey in the Larder" is the title of a new bee book by Mary Louise Coleman published this month by Doubleday Doran & Co., New York.

This is a different kind of bee book and one which is easy to read and which contains many interesting observations from the standpoint of a novice who has recently gone through the experience of getting started with a new pursuit.

For the most part the book is recital of the author's experience and it should be read by every bee supply dealer who issues a catalog for the sale of his goods. After sending for a catalog Mrs. Coleman writes,

"This avalanche of detailed information discouraged me. It was so overwhelmingly technical. But nowhere could I discover a simple, straightforward statement of how to begin step by step, to acquire a few bees for my garden."

When the supplies had been ordered in anticipation of next season's activity there remained the problem of putting them together. The living room was used as a shop with the following result:

"Like all good mechanical toys, each packing box held explicit directions, detailed diagrams printed with arrows and X marks the spot. There were fat packets of different sized nails, and each size told where to go. In spite of all of these considerate instructions it took me three days of serious contemplation, experimental fitting and accurate hammering to complete the first hive with stand. At last with the pride of a master craftsman, I placed it under the piano; a completed hive in all its squattness awaiting its protective coating of paint."

Not only does the author assist the beginner with bees by telling of her own experiences but likewise she leads the way to the use of the product in the home. She tells how she used honey in cookery, cosmetics and various other things. It is a very readable little book of 130 pages, attractively bound and sells at \$1.75, to be had from the publisher or from this office.

The Board of Directors of the G. B. Lewis Company have selected Lewis W. Parks as president of that organization. In addition, he assumes the offices of treasurer and general manager. W. H. Woodward, of Watertown, is the secretary. Beekeepers who have followed the activities of the American Honey Institute will recall Mr. Parks' activity in the formation of that organization and his keen interest and work in its behalf.

The personnel of the G. B. Lewis Company is to remain unchanged under the new president.

The 21st annual report of the Illinois Department of Agriculture by J. H. Lloyd, director, has come to this office. It is a book of 180 pages profusely illustrated with photographs. The department is divided into fourteen sections, including the one on apiary inspection headed by Carl E. Killion.

Since the department is concerned with every branch of agricultural activity within the state, reference to each activity are of necessity brief and designed to acquaint the public with the kind of service available in each field. Readers wishing copies of the report should write the Department of Agriculture, Springfield, Illinois.

A report for the three year period of 1934, 1935 and 1936 for the Bee Division of the Dominion Department of Agriculture has recently appeared. It is by C. B. Gooderham, Dominion Apiarist, and summarized the work of his department during that time.

A comparative test of Italian and Caucasian bees favored the Italians. They produced more honey and showed less inclination to swarm while the Caucasians were easier to handle.

A comparison of overwintered colonies with package bees for orchard pollination showed better results with the full colonies. When full overwintered colonies are not available a large package was found to be desirable.

A study of supersEDURE brought no satisfactory answer as to the cause. Several other research projects are briefly discussed including comparison of upper or lower supering; dual colonies for honey production; relation of bees and brood in a normal colony, nuclei vs. package bees; drawn comb vs. foundation, etc.

Copies of the report are available from the office of the Dominion Apiarist at Ottawa, Canada.

acid produced by various foods, tests were made with the saliva inoculated into liquid media prepared from a large number of common foods.

These tests showed that "Staple products of the primitive diet, such as starch, rice, potatoes, molasses, orange juice, honey, etc., are fermented so slowly and with the production of so little acid that it is difficult to see how they could be related to it [tooth decay]."

On the other hand some other foods, notably cereals, were fermented with extreme rapidity.

It is interesting to note that primitive men living upon natural foods are free from many of the ills of civilized men. Nearly always those who engage in research of this kind have a good word for honey as an article of diet.

Dr. Bodog Beck has recently indicated that when the public is fully informed as to the true merits of honey, the demand for it is likely to increase to a point beyond the capacity of present day bee-men to supply.

ABJ

## What is Our Yearly Honey Production

UNTIL 1937 there was issued late in each year, by the Bureau of Crop Statistics, a summarized report of the annual production of honey in the United States. This report gave us pretty close figures on the annual crop, based as it was on carefully prepared blanks filled in by producers.

In 1937 the report did not appear, and it likely will not appear for 1938. We are informed that there is no demand for it from the beekeepers. Think of it! In an era when there are hundreds of millions of dollars being spent on everything from mosquitos to mountain dams, a few dollars is begrimed the beekeepers on an annual report of their own production.

Inactivity on our part is to blame. How many of us write to commend Harold Clay for his semi-monthly crop reports? How many of us even miss the annual report if it does not appear?

A little action, readers! The Bureau of Crop Statistics, at Washington, will undoubtedly find a few shekels to finance an annual report consisting of a mimeographed sheet or two, if we make our desire known.

ABJ

## Encourage the Amateur

THERE has been a tendency of late in some circles to discourage the amateur beekeeper. Too often he is made to feel that he is out of place in a group of beekeepers. Too much emphasis has been placed on large outfits and commercial production.

It is the amateur class from which future producers come and it is the amateur who provides the enthusiasm to arouse public interest in our business and our products. Honey prices ruled much higher in the days when there were large numbers of amateur beekeepers whose enthusiasm resulted in a demand for far more honey than they produced.

There was a time when large numbers of professional men and

women found beekeeping an interesting hobby. Now we find that most of these people have turned their attention to flowers, pigeons, or golf. There was a total attendance of 1,236 at the banquet of the American Racing Pigeon Union, at Milwaukee, in October. Racing pigeons are of little commercial importance in this day of telegraph and radio but they provide an interesting hobby for the one who looks for something to take him into the open air.

If we could create interest in beekeeping on the part of enough people to draw more than twelve hundred to a banquet it would result in a substantial advance for the beekeeping industry.

ABJ

## Package Bee and Queen Losses

**W**E call the attention of our readers to the article by George H. Rea, Extension Entomologist for New York, in last issue of the American Bee Journal. His article gives his idea on the reason for queen and package losses.

We are entirely in agreement with him on one of the basic factors which we believe has to do with much of the losses, which is that not only are queen bees raised, in the majority of cases, under unnatural conditions and previous to the natural time, but that such conditions also may prevail all through the season.

The queen breeder and package shipper no longer has an opportunity of raising his queens, building his colonies and making up his packages at the time which is most opportune, taking into consideration the temperature and the weather. Nowadays we all want our package bees delivered between April 15 and May 10, and we want them willy-nilly. That means that the package shipper confronted by bad weather is obliged to do a lot of forcing both of his queens and of his packages.

Isn't it entirely reasonable, as Mr. Rea suggests, that, under such conditions with much feeding and much forcing, we cannot expect the breeder in the South to get as good results as he probably could get if he were allowed his own time and his own weather preferences.

It is likely, when these packages and queens arrive in the North, that they reach the buyer under unfavorable and unnatural conditions. We are forcing the issue all along the line in order to get our colonies ready for the northern honeyflows.

When we remember that years ago the Dakotas, Minnesota, and Canada offered a wonderful market for honey produced farther south, we can understand that this would still probably not be a bee country under natural conditions. It seems, therefore, that it is necessary to use forced conditions in order to get colonies up there in shape for the crop.

Is it surprising, then, to find that we have losses which are out of the ordinary and that these losses should be blamed first upon one cause then upon another. The only thing to do is to consider the matter from every angle and to allow our field stations and laboratories to work out a system of management whereby the losses may be avoided in the future. Otherwise we may have to resign ourselves to such losses permanently and figure them as a part of what we have to pay for living and operating under abnormal conditions.

The 110,000 beehives in Denmark yield on an average about 12 kilos of honey per hive per year. The total value of this production is approximately 2,600,000 kroner (1 krone equals about 22 cents). Divided among about 26,000 apiarists this gives an annual average gross income of roughly 100 kroner per beekeeper. After deducting operating costs there is very little left in the way of net profit.

Local apiarists state that the outlook for this year's production is poor as the extremely cool nights have prevented the sap from rising properly and as a result the bees have collected only between one-third and one-half of the honey that they gather in a normal year.

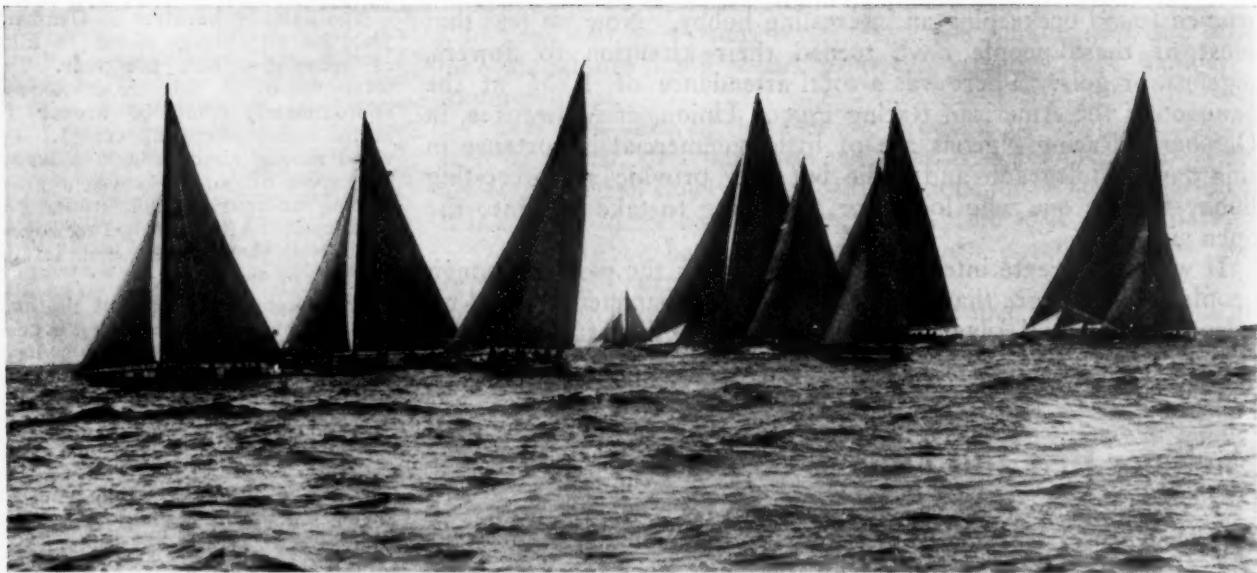
Denmark imported 50,400 kilos of honey valued at 35,000 kroner in 1936. The United Kingdom and Cuba each supplied honey valued at 15,000 kroner, and Germany, Mexico, and the United States furnished the remainder, the share of the latter amounting to 2,000 kroner. Exports to Iceland and Sweden totaled 2,000 kilos worth 3,000 kroner and re-exports to Norway and Sweden 6,300 kilos worth 5,000 kroner.

Special efforts are being made to develop a regular export to the United Kingdom. Delivery of 20,000 kilos is to be made to a London firm in October and November and further orders are expected. The establishment of a joint export warehouse to which the liquid honey will be sent for standardizing processing, is planned.

Reported by the Office of the American Commercial Attaché, Copenhagen, in "Foodstuffs Round the World," September 23, 1938.

◆

A News Letter from John F. Hopf, Jr., secretary of the Rockland and Bergen Counties Beekeepers Association, informs us of a number of activities of this young organization. The association has affiliated itself with the Rockland County Farm Bureau in order to encourage closer coordination. The association plans to become a member, also, of Empire State Beekeepers Association. Steps are being taken to parallel the New Jersey plan of branding and registering hives with the state police. In the autumn, the association held a turkey raffle and the winner reports a fine Thanksgiving dinner for his family. The treasurer reports about \$27 from the raffle alone has been added to the association's funds. Not bad, eh?



Several types of racing boats.

## Down to the Sea With Beeswax

By J. T. MacMillan,

New York.

Today it is Speed and Sport with Beeswax in the Lead.

WHILE the glorious clipper ship has gone the way of the fixed frame and the old bee gum, the sail has not. It is no longer valued in commerce. Instead its sphere of use now covers every lake, river and ocean with thousands of white dancing dots all summer long.

On closer inspection these dancing dots prove to be as different from one another as sweet clover honey is unlike that of buckwheat. Among the more common of these hundreds of varied sailboat classes we find Snipes—over 2000 of them—Dinkeys, Great Scots, Moths and Shovelnooses. There are more than 3500 Star Class boats while the registration records of just one custom house area shows over 22,000 registered boats. And this does not include thousands of smaller craft and sailing canoes. None of these classes contain boats any longer than 22 or 24 feet, yet, at times, many carry 1800 square feet of canvas.

So great is the healthy spirit of competition left as another heritage by the racing clippers that no two of these sailboats ever have gotten together without a race resulting to prove the faster boat. Under these

conditions the owner's pride demands the best of everything for his boat. Which means handmade sails and beeswax both aboveboard and below the waterline.

The sport has become so widespread and active that despite the much smaller amounts of canvas used by each boat, today the output of sailmaking firms is greater than in the days of the clipper. Many of the newer firms make a machine made sail in which beeswax is used sparingly or not at all. On the other hand, one of the better sailmakers states:

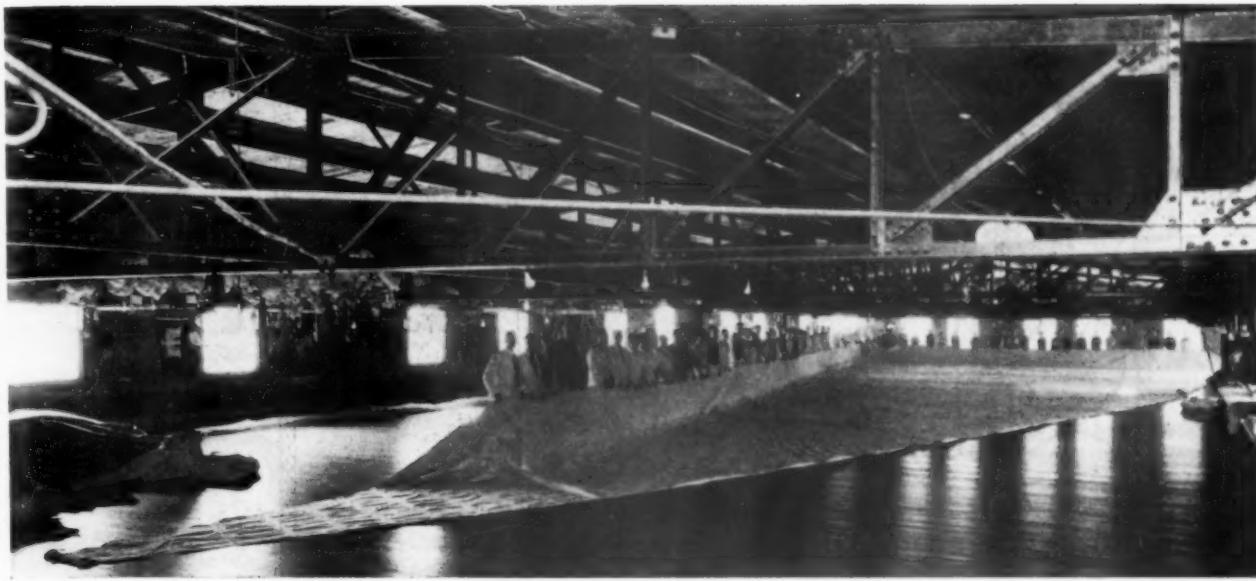
"Our yearly use of beeswax varies anywhere between 500 and 800 pounds. As the yellow wax discolors the canvas at first, we use the sun-bleached wax. About 25 pounds would go to one set of sails for a 'J' boat. We do not use paraffin as it is washed off too quickly by the salt spray."

The "J" class yachts referred to are the America's Cup boats, among others of which are the Yankee, Rainbow and Ranger. With our progressive sail designing and making, to say nothing of our able bodied seamen, we have kept the Cup here since 1851 despite fifteen attempts

to regain it. American made sails have even been used by the British in some of their attempts to recapture this symbol of superior seamanship and workmanship.

The boats have a waterline length of about 85 feet while their masts are so tall—165 feet—that they are unable to sail under New York's famous Brooklyn Bridge. As the largest of all the racers, they carry a total of 7500 square feet of canvas in one "suit," or set of sails. Usually they are equipped, at a cost of over \$300,000, with about 15 "suits" for all types of wind and weather. The mainsail on the Yankee cost \$13,000 and the parachute spinnaker, which looks like a stratosphere balloon in a light breeze, cost \$3500.

At the other end of the scale from the boats of the "J" class are the Shovelnose scows of our inland lakes and rivers. Much faster than the "J" boats, it is claimed that they are capable of skimming along at 25 knots per hour, while speeds of 17 and 18 knots are quite commonplace. Only 15 to 25 feet in length, the scow carries from 300 to 500 square feet of canvas, and the hull being very shallow in construction they actually skim along the surface in-



Mainsail for an America's Cup yacht. (Courtesy of Ratsey and Lapthorn, City Island, N. Y.)

stead of cutting through the water.

Some of the small boat owners waterproof their sails by brushing on a warmed solution of three-quarters of a pound of beeswax dissolved in a gallon of turpentine or kerosene. In this connection it should be noted that paraffin must not be used as a substitute for beeswax as it does not resist mildew in canvas. Not only that but paraffin treated canvas, when exposed continuously to sunlight, will lose 85 per cent of its strength in six months' time.

Incidentally, we all use canvas covers at one time or another. By waterproofing and mildewproofing with this formula, the life of the canvas, and its serviceability, will be greatly increased.

First, dissolve by careful heating and mixing together, four pounds of dark color vaseline—from a drug store or wholesale druggist—and one pound of beeswax. Then thoroughly stir in two and a half pounds of raw sienna earth pigment. This can be had at any paint store. While yet warm this mixture should be well incorporated in two and a half gallons of equal parts of kerosene and gasoline. The last operation should be done with considerable care in the open air, but not in sunlight, and then applied immediately by slowly painting on one or both sides of the canvas. Brush with care, avoiding friction. The resulting color will be khaki.

Nowadays the use of beeswax is not confined to the canvas alone. Halyards and sheets, the ropes for adjusting and reefing the sails, are treated by individuals with a paste of beeswax and turpentine. This is done to make them more pliable and smoother to handle as well as less liable to fraying at points of strain

and friction. The ancient Roman writer Pliny mentions this use in the first century. In addition, the ends of rope rigging in general are still tapered with beeswax treated cord to prevent ravelling.

Even more important, in the eyes of individual racing boat owners, is the use of two leading brands of polish on the hulls of smaller size craft which are sailed in the weekly races held by almost every club in the country.

According to the manufacturer of one of these polishes, beeswax is an important ingredient in his formula because of its fine texture and tendency to stick, holding the smooth film of protection for a longer length of time.

Concerning this use, Dick Wallace, owner of an Albatross Class boat on the Chesapeake Bay, says, "A smooth varnish job on the hull and topsides followed by a thin, smooth wax job is about as fast a racing surface a skipper would want. But in order to keep this surface fast, the boat must be kept out of the water until just before each race and then must be pulled out after the race for another polishing. You see we are troubled with marine growth—barnacles will grow even on a whale's back—and does that stuff love a good wax job!"

Those sailboat classes that exceed 20 feet in length frequently have rules to prevent more than a certain number of sail replacements in one season, and rules that further require each boat to remain in the water for long periods.

This cuts out the expense of hauling out at frequent intervals and consequently prevents the use of wax polish, thus placing all owners, wealthy and poor alike, on an equal footing. The smaller classes use the

wax finish much more extensively, as it is possible to haul them out of the water by hand.

The practise of waxing the hull is not limited to sailboats. Many of the 300 different types of outboard motorboats use this means of cutting down on the skim resistance of the water to the passage of the hull. The method is often employed also on the hulls of the shells used by college crews in regattas the world over. One and two man racing sculls also gain added speed through wax.

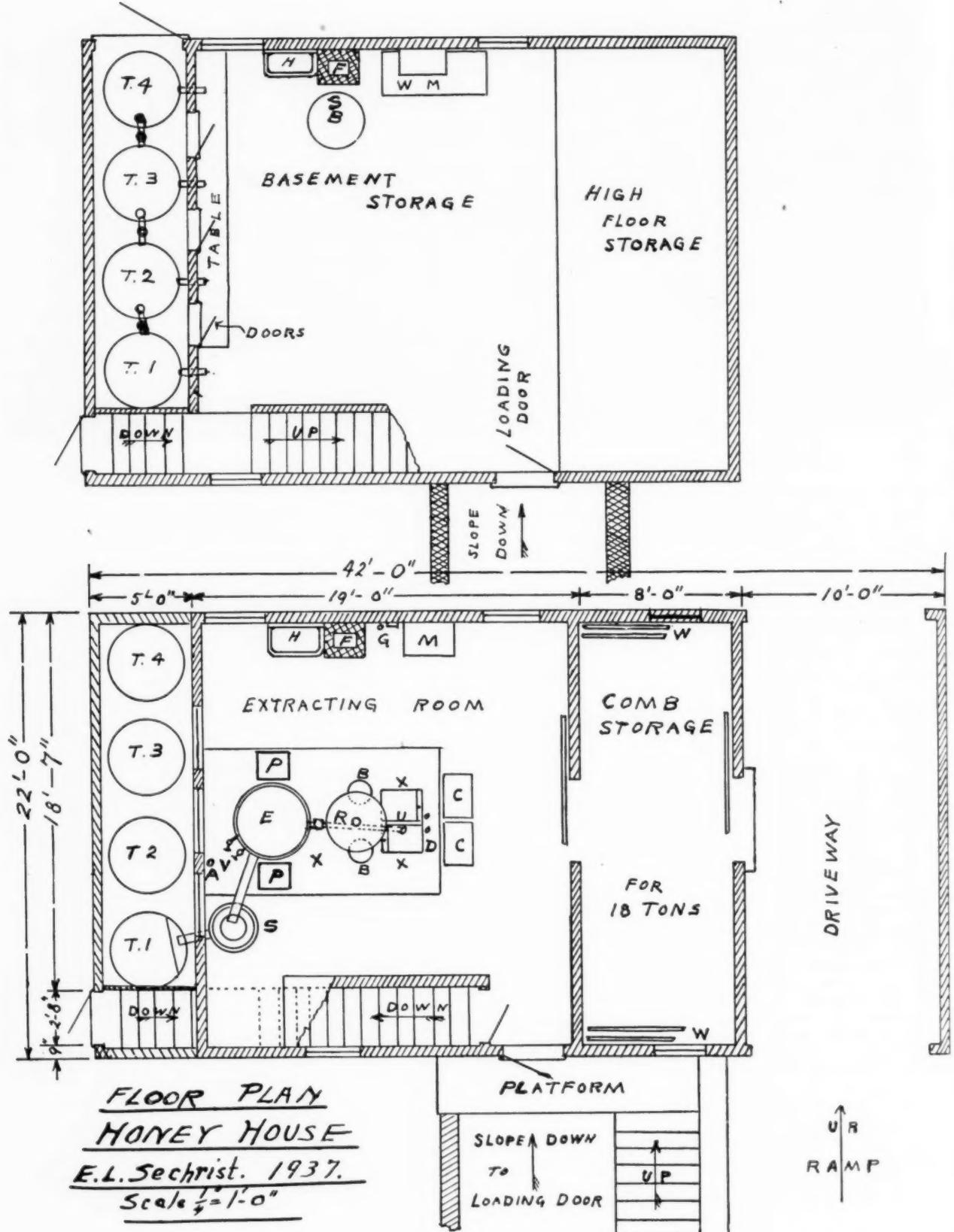
And in the heart of winter when the lakes and bays are solid ice, beeswax scoots across the surface at 40 and 50 miles per hour—in some of the sails of flashing iceboats.

ABJ

## Sainfoin

Sainfoin, or esparcette (*Onobrychis sativa*), next to white Dutch or pasture clover, is regarded as the world's most important source of honey. It is widely grown in Europe and Asia, and, to a limited extent in Canada, but so far has not succeeded in the United States.

In countries where sainfoin is generally grown as a forage crop, it provides extensive bee pasture, such as is found with alfalfa in America. Its addition to our farm crops would probably offer a substantial addition to our honey sources, since sainfoin blooms first between fruit bloom and white clover and offers a later bloom when there is little forage available in many sections.



Equipment in these plans is indicated by letters. P—extractor motor; E—extractor; R—revolving comb tray; U—uncapping box or cappings melter; D—clips to hold drip hose from uncapping knife; C—supers of combs on dollies or trucks; T—1-2-3-4 connected storage tanks, cans are filled at T-4; S—Sump or separator; F—boiler flue; H—sinks where running water or well is available; WM—wax melter just under chute M which has slide near bottom to hold cappings until they are to be melted; SB—steam boiler; G—steam gauge; M—chute for sending drained cappings to basement; P—galvanized pans on which to set extracted combs; B, B—basins of water for use of uncapper; A—steam riser running to uncapping box, with crosspipe for knives; V—inlet and outlet valves for heating coil of small copper pipe attached to inner wall of extractor; outlet pipe runs to drain; W, W—steam coils or baffles to distribute heat in storage room.

# HONEY GETTING

## Work in the Honey House

By E. L. Sechrist,  
Tahiti.

WORK begins with the load of honey just arriving in the driveway. It is well to provide this driveway with doors which close tightly, although I have not shown them. They may then be closed at night if a load of honey is brought in too late to handle before morning. The driveway is also wide enough to be used as emergency storage for empty stuff.

The fill in the driveway is made so that the truck bed is just on a level with the floor of the storage room. Then a flap is lifted up, or a plate of iron pushed out until it rests on the truck bed, providing a smooth way from truck to house. Piles of combs, preferably on hauling boards, may be handled with either a lift truck or a warehouse truck, or may be lifted on to dollies or small trucks and wheeled into the storage room. Some will prefer to carry the supers in by hand, and, unless the apiary business is large, this serves very well. They should either be piled crosswise, or staggered endwise to enable any remaining bees to escape readily and go to the windows, one at each end of the room. Staggering also permits heat to penetrate the piles readily when the combs are to be warmed. The room should be provided with steam coils on the walls so that thick, cold honey may be heated before extracting is begun. The coils should have baffles so that the heat will be distributed

and not be radiated directly against the stack of combs. The sliding (or other) doors should fit closely to conserve heat and to provide a place for fumigating empty combs.

Supers of filled combs are brought in from the apiary and stored in this room until such time as they are wanted in the extracting room, into which no bees should ever enter. They are taken through the wide doors on trucks or dollies, or carried by hand, and placed at C. C., where the uncappers can reach them readily. The man who takes in the supers removes one comb from each and loosens the others so that the uncapper can take them out quickly with his fingers.

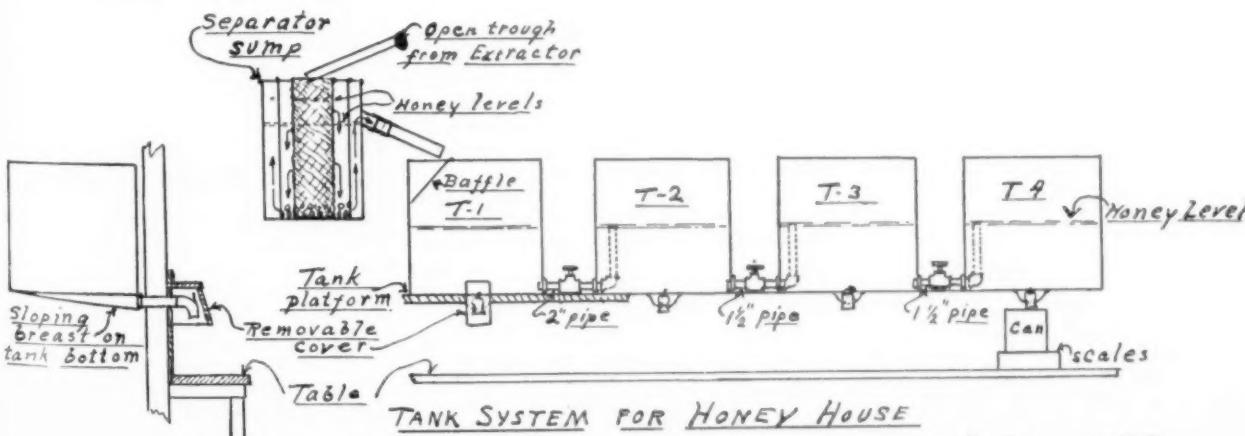
The uncappers stand at X. X., one at each end of the box, if two are working. The uncapping box, U, will be discussed in a later article. The steam knives hang inside the box when not in use, being suspended from the steam line which is just above the heads of the workers, while the drip hose from the knife is held in place by the clips or pipes, D, at the side of the box, and the condensed steam drips into a bucket placed below. A crooked or a straight-bladed knife may be used, but I think the work is easiest with a long, straight blade, making first a short upward cut from the bottom of the comb, a little more than the width of the knife. Then the twist which frees this bit of cappings from the knife and

comb leaves the blade in the right position to make the downward stroke from the top of the comb, which completes the operation. If one is not an expert at uncapping, he may find a power uncapping machine very useful, although a good uncapper can do about as much work with a steam knife as with a machine.

The uncapper then sets the comb into the revolving rack and tray which, it should be noted, is two inches higher than the uncapping box and overhangs it three inches, so that honey dripping from the freshly uncapped combs does not fall on the floor but into the cone shaped tray of the rack. The top of the uncapping box is 32 inches from the floor, while the edge of the tray is 34 inches. This rack and tray will be illustrated and described later.

Partly under the edge of the comb tray are two wash basins set on top of supers, convenient for the uncappers to wash honey off their hands. A cloth should be kept in each basin to mop up any honey that is not where it should be. Half of a 5-gallon can makes a good basin. The comb rack holds 45 combs, 9 in each of 5 sections, so that it serves a 45-frame radial extractor or anything of smaller capacity.

There is a drain, of about  $1\frac{1}{2}$  inch pipe, from the bottom of the uncapping box into the extractor, as indicated by the dotted lines. A piece of two inch rubber hose slips over



the end of this pipe and connects it with a nipple soldered into the extractor. A capping melter may be used instead of the uncapping box and the honey from its wax and honey separator will drain into the extractor and be cooled quickly; or the cappings may be dried centrifugally or in a screw press, and the almost dry cappings be dumped down the chute to await a convenient time for melting them. All this apparatus will be described later.

For rapid work, a third man is necessary to handle the extractor and do extra work. If only two men are at work, one of them runs the extractor, uncaps during his spare time, and brings in combs of honey from the storage room. When combs are removed from the extractor, they are set into supers placed in the galvanized iron pans, P. P., which catch the drip, a considerable aid in keeping the floor clean and free from honey. From these stacks, the supers are again placed on dollies or trucks and taken to storage or to out-going trucks to be returned to the apiaries. There should be a space of 9 inches between the edge of the pan of the comb rack and the extractor and 18 inches or two feet between the extractor and the wall. It is advisable to have about 100 feet of small diameter copper pipe made into a coil and soldered to the inside of the extractor, through which steam can be admitted through the valves marked V to warm the honey as it trickles down the side walls of the extractor. This is much better than having a pipe coil in the bottom of the extractor. It is not always necessary to heat the honey, but it is sometimes hard to get it clarified satisfactorily in the tanks unless it has been warmed.

From the extractor, the honey runs to the sump or separator, S, preferably in an open trough so that clogging can be prevented easily. It is delivered into the central cylinder of this separator, which is made of  $\frac{1}{8}$  inch mesh wire netting or hardware cloth. In this cylinder most of the wax and waste which is in the honey comes to the top, because of the construction of the separator, which will be given later. Passing through this mesh cylinder (or it may be of perforated metal), the honey is deflected downward, as shown in the illustration, by a cylinder of galvanized iron having rows of holes around its bottom edge through which the honey passes into the space between this cylinder and the outside can or tank. Here it rises and flows out through a pipe placed 6 or 8 inches below the top of the tank, and preferably as large as two by four inches. This outlet must be so large that there never will be any back pressure to cause the separator sump to overflow. Cold honey flows

slowly and requires a pipe of large capacity. If the wire mesh cylinder becomes clogged, it can be lifted out, and, after draining, be emptied into the uncapping box.

This separator tank or sump need not be cylindrical but may be of any size or shape to suit the situation. It may be simply an oblong tank with a partition 6 or 8 inches from the outlet end and extending nearly to the bottom, under which the honey must flow before it goes into the storage tank. If this kind of a sump is used, it is well to hang, in the large compartment of the sump, a basket of  $\frac{1}{8}$  inch mesh wire cloth to catch bits of wax. This can be emptied when necessary. While careful operation makes it possible to do without a sump in a gravity system, one should always be used when honey is handled with a pump, the honey being pumped from the sump and not from the extractor. This will prevent much pump trouble.

As the honey flows from the outlet of the sump into the first storage tank, it encounters a baffle, as shown, placed at an angle sloping toward the side of the tank so that the honey does not fall directly into that below, causing bubbles, but runs slowly down the side of the tank. Or, if straining through cheesecloth is desired, the mouth of the deep bag may be tied around the pipe.

When extracting is being started, all the valves in the tank system are closed, permitting the first tank, T.1., to fill before any honey is admitted into the second tank. This allows most of the scum and waste to rise and remain on top of the honey in the first tank. It should be skimmed off occasionally although I have seen it remain there until the end of the season. In this case, no sump was used and the layer of scum and wax was almost a foot thick. While this may make no difference in the final results, it does not look well and surely is not good practice.

The important thing in the construction of this tank system is the use of the stand-pipes extending half way up the inside tanks 2, 3 and 4. With all the valves open, tanks 1, 2, and 3, would be half full all the time and 4 would be the only one which would run empty. Without these upright pipes all the honey would run out and the special value of this tank system would be lost.

Tank 1 having been filled, the valve between it and 2 is opened and extracting continued until both these tanks are filled. Then the valve between 2 and 3 is opened and tank 3 is allowed to fill, after which the next valve is opened and tank 4 is filled. Tank 4 should be allowed to stand over night, after being filled, before any honey is drawn from it, this gives time for any scum to rise that may be drawn in the first time

the tank is filled. Afterwards, honey may be drawn from this tank at any time, although it should never be more than two thirds emptied.

It will be seen that, in each tank, the honey is given considerable time for the waste in it to rise to the top, after which the honey in the lower half of the tank is drawn off into the following tank, allowing the honey containing the most wax particles to remain in the tank. Into each tank the honey from the preceding tank overflows from the stand-pipe, not being carried at once to the bottom of the tank but remaining on top of the honey previously in it. Thus no honey goes into tanks 2, 3, and 4, until it has had considerable time to free itself from scum and wax.

Honey is filled into cans only from tank 4 which is always kept one-third full of honey until the end of the run or of the season, when all the tanks are emptied through their own gates, and any necessary clarifying done to complete the clean-up.

Between tanks 1 and 2 should be a two inch pipe; between the other tanks  $1\frac{1}{2}$  inch pipes will be large enough. Gate valves should be used to give free passage the full size of the pipes. Connections are made as close to the bottom of the tank as possible and are made with rubber gaskets, metal washers, and lock nuts.

It is desirable to have the outlets for draining the tanks come from their bottoms, with a sloping breast as shown, so that they may be drained completely. At the end of the season it is well to disconnect the pipes, wash everything clean, coat the tanks inside with beeswax using a blow torch to heat the part of the tank being waxed, and to turn them upside down on the tank base, which should be built to accommodate the lowered outlet pipes at the bottom of the tanks. It would be desirable, though costly, to make tanks and all other apparatus of stainless steel, which would last a lifetime and would require no care except being washed clean.

On the drawing of the tank system I have shown a removable cover to be hung over the honey gate. This may be of wood or of metal. It prevents waste from accidental or malicious opening of the honey gates.

ABJ

## Honey at Heine's Party

More than 18,000 attended Heinie's sixth annual Christmas party in the Milwaukee Auditorium, December 10, the entire proceeds of which went to charity. Thousands of dollars' worth of merchandise contributed by Wisconsin firms was auctioned. Among the contributors were M. F. Alexander and Honey Acres, both of whom presented honey.

H. C. Brunner, Wisconsin.

# Institute News

The American Honey Institute lost a friend and guiding hand in the death of G. C. Lewis at his home in Watertown, Wisconsin, December 12. As a pioneer in the Institute both as president and as layman he was indefatigable in his efforts to promote the Institute.

\* \* \*

In the Chicago Sunday Tribune, January 1, George Rector, internationally known food authority, listed and recommended as unusual and extremely simple to make this Honey Chocolate Cake.

## Honey Chocolate Cake

2½ cups cake flour  
1 teaspoon baking powder  
¾ teaspoon soda  
1 teaspoon vanilla  
¾ cup honey  
¾ cup brown sugar  
½ cup shortening  
½ cup cocoa  
2 eggs  
1¼ cup sour milk  
½ teaspoon salt

Thoroughly cream honey, sugar, and shortening. Add cocoa and stir well. Add eggs one at a time and stir vigorously. Add sour milk and sifted dry ingredients and stir lightly. Add vanilla. Pour in well-greased layer tins and bake in moderate oven (375 degrees) for forty minutes. Makes three nine inch layers. Put layers together with apricot marmalade or peach jam and cover cake with chocolate icing.

## Chocolate Icing

1¾ cups sugar  
1 teaspoon of cream of tartar  
¾ cup hot water  
4 squares chocolate  
½ teaspoon vanilla

Boil sugar, cream of tartar and water together until it thickens and spins a thread when dropped from spoon. Melt chocolate over hot water. Gradually pour sirup on melted chocolate, beating until the icing is of right consistency to spread, then add vanilla and spread icing on cake at once. (With the permission of George Rector).

\* \* \*

## Bee Busy

Early last fall the American Honey Institute contacted a bakery which had never used honey. Within six

weeks it placed an order for one ton.

It is impossible for the Institute to contact all honeyless bakeries but it will be glad to send literature on uses of honey in baked goods if our readers will mail us a list of bakeries in their communities. **LET HONEY HELP MAKE BETTER BREAD.**

\* \* \*

If you want anything done, ask a busy person. Outside office hours within one week the director of the American Honey Institute entertained two out-of-state beekeepers, presided at a meeting at which she introduced the State Home Demonstration leader and president of the Madison Home Economics Club, attended a tea given by the students of the University at the Home Economics cottage, was guest at a high tea at which she talked on the work of the American Honey Institute, and broadcasted the opening number in a series of speeches by the professional home economics group.

\* \* \*

The American Woman's Cook Book published by the Culinary Arts Institute under the directorship of Ruth Berolzheimer is on the desk of American Honey Institute. This book will appeal to all women who are interested in cooking and food value. We are pleased to see our honey recipes incorporated in its colorful pages. Among these recipes are honey fondant, frosting, ginger nuts, hermits, sandwich bread, sauce and twist. The book is replete with full page process photographs, colored plates and has a thumb index which makes it convenient to handle in spite of its 900 pages.

\* \* \*

Harriett M. Grace, director of the Institute, will talk on the Goodyear Farm Radio News Program, on January 31, at 12:15 CST.

\* \* \*

Because of the great expense involved, the American Honey Institute deemed it advisable not to publish an annual report this year but instead will print the financial report in the March issue of *Inklings*.

—ABJ—

## Our Cover Picture

This month's cover, the second in a series designed to show the relationship between the beekeeper and the farmer, pictures a flock of sheep.

There is an ancient tradition linking the keeping of sheep with fishing and beekeeping. This would seem to offer a rather ideal combination.

Sheep are great turf makers and when they are pastured on good land a lush pasture soon develops. They are often used in parks to keep down the weeds and to save mowing the grass. In the apiary they serve a similar purpose, since they are not inclined to upset the hives or to cause annoyance to the bees. Unlike cows or pigs they can be kept in the bee yard without much danger of putting the place in an uproar.

In humid climates, the neighborhoods where farmers keep sheep are likely to be good bee locations, since the clovers are usually present in abundance. In arid regions, on the contrary, the sheep often pasture the herbage so close as to destroy the honey plants. Where there is ample moisture and rich soil the sheep build up the farm rapidly and add greatly to the prosperity of the community. Where moisture is lacking and forage is scant they graze so closely as to injure the plants. Overgrazing by sheep has resulted in serious injury to some areas of our national forests.

In the eastern states an abundant growth of dandelion and white Dutch or alsike clover is likely to be found in the sheep pastures. Thus we find the sheep growing neighborhood, like the dairy community, to be a rather safe one for the beekeeper since there is little variation in available honey plants from year to year. In the arid regions of the West it is not always safe to depend upon the bee pasture in the vicinity of large bands of sheep.

—ABJ—

## Philip Clayfield Porter

Many beekeepers who have used our labels have become well acquainted with Phil Porter, who printed them. Phil was a master craftsman and a quiet, efficient man whose helpful friendship reached out to the far corners of the country.

He had reached full maturity, with a long life ahead, and so we can scarcely reconcile that expectation with his rather sudden death on January 3, following a three weeks' illness with pneumonia. The immediate cause of death was a blood clot on the brain, unexpected and quick in its finality.

Phil was one of those men who easily become a part of the community in which they live and who make its life richer by their presence. We shall miss him. He built a fine printing establishment with good personnel, so we expect the label service he helped develop will continue without interruption.

# Two Tested Recipes

FROM time to time, we hope to give you honey recipes that have been developed by any of you good honey cooks who may read our pages. Each recipe will be tested by us and so should be one which will give entire satisfaction to anyone. Each food will be original and new; it will turn out well in our own hands, and so it should turn out well for any cook who uses it.

Send in any original honey recipe you may have. We will test it to see if we are able to make it do for us what it has done for you. Then it will be published. For each recipe that appears we will pay one dollar.

Here are two from Mrs. Wilbert Harnack, of McGregor, Iowa. Mr. Harnack is a large beekeeper at McGregor and Mrs. Harnack has been very active in furthering the use of honey in the home. She says: "I would like to do more in getting honey before the public

but it is discouraging to work with the wives of beekeepers because they do not seem to see the opportunity or what they can do to increase honey consumption." (Sorry she has to say that about beekeepers' wives aren't you?)

## Little Bo-Peep's Party Pudding

- 1 Junket tablet
- 1 pint milk
- $\frac{1}{2}$  teaspoon vanilla
- 1 tablespoon cocoa
- 3 tablespoons honey
- $\frac{3}{4}$  cup cream
- Crisp rice, corn, or wheat flakes\*

Mix honey and cocoa to a smooth paste. Dissolve Junket tablet with a tablespoon of cold water in a cup; crush with a spoon and dissolve thoroughly.

Warm milk slowly to lukewarm, not hot (110 degrees Fahrenheit.) Add vanilla, honey and cocoa mixture to the warm milk. Mix well, add the dissolved Junket tablet to mixture,

\* I USE KELLOGG'S RICE CRISPIES.



Mrs. Wilbert Harnack

stir quickly for a few seconds, pour at once into dessert glasses and let stand until firm.

Serve in same glasses topped with honeyed whipped cream and cereal flakes: Allow one and one-half tablespoons strained honey to each cup of whipped cream. Add one cup of crisp cereal flakes and mix well. Garnish top with cereal flakes also. The cereal should not be added until serving time.

This recipe won a prize in a Needlecraft contest in 1929 under Anne Pierce Domestic Science Department. When making the recipe for adults use more cocoa than when it is intended for children.

## Bran Gems

- 1 egg
- 1 tablespoon honey
- 1 cup flour
- 3 teaspoons baking powder
- 1 tablespoon melted butter
- 1 cup sweet milk
- 2 cups bran
- $\frac{1}{2}$  teaspoon salt

Beat the batter steadily for a few minutes until it bubbles. Bake in gem pans in a hot oven. These are delicious served with honey.

For a delicious dessert add to the batter a cup of chopped raisins or dates and serve with a hot liquid sauce flavored with either vanilla or lemon juice and nutmeg.

In commenting on oven temperature for the Bran Gems, Mrs. Harnack says "Oven thermometers vary, and some women like their products baked slowly, while others prefer them browner from a hotter oven. This recipe calls for an oven about 375 degrees, with a baking period of 20 to 25 minutes.



Above—Little Bo-Peep's Party Pudding. Below—Bran Gems.



# Obstacles to Marketing

By P. C. Chadwick,  
California.

THE ever-present problem of marketing seems to be as far from a solution as at any time. There are so many angles of thought on the question that are difficult to bring together, that a solution seems next to impossible.

Beekeepers have visionary ideas of marketing in many cases and a dislike for dealers why buy their honey, because they assume they are not receiving a just share of true market value. There may be a degree of justification for this attitude, but it must be remembered that the buyers are confronted with problems created by the producer that forestall uniform action on the buyers' part.

At a meeting of beekeepers some months ago I was impressed by the total lack of a spirit of cooperation with the buyer that existed. The buyer, in the minds of some present, was viewed as an extortionist, who created a condition that forced them to dispose of their crops at a sacrifice not justified by the market. That attitude I believe is hardly justified. It must be remembered that some beekeepers are living on a hand to mouth basis, and by the time the early honey is ready for market the need for cash is pressing, to an extent that they must have cash to protect their credit, which may be worth more than an extra fraction of a cent per pound on their honey.

This early honey is virtually dumped into the lap of the buyer before the extent of the crop is known and a price level established by the supply, thus forcing the buyer to pay only a very conservative price as a matter of business safety, but at the same time setting a precedent on value not to be desired. However, neither can be justly blamed, for business caution is speaking to the buyer while cash, always persuasive, speaks in loud tones to the producer.

At this same meeting a young man read a tirade on the machinations of buyers that seemed ill-timed as well as of doubtful conclusions.

Another group, including four county inspectors and one state inspector, were pondering the question of how packers could be forced to pack their honey in containers that would not make them look like they

held more than they actually did, although they knew the amount must be designated plainly on the label, as required by law. That really made me smile, for it seemed to me to be placing the buying public in the position of the man that "didn't have sense enough to pound sand in a rat hole with the directions on the hammer handle."

Fewer regulations of this kind would be a boon to the distribution of honey, for after all, it is not the shape of containers that is vital, but to get the honey temptingly into the hands of the consumer and out of the way for the next crop.

What is honey worth? That is a question that confronts both the buyer and producer. Over-quoting causes dissatisfaction among producers. Last July, I made a marketing trip to Los Angeles and vicinity to find exactly what the honey market was. With samples I started on my journey. The first place I visited I showed my sample and was told "orange honey of that grade was worth five and three-fourths cents per pound, but at the present time we are not buying." At the next place the answer was the same. At still another place they were paying five and one-half and would take all I had of that grade. That was the best offer of the day, and so at the end of my trip I decided that my honey was worth exactly five and one-half cents, and that the firms that were quoting a higher price, but were not buying, were really not in a position to quote and were not justified in so doing. From these sources the quotations go to the producers through marketing bulletins as from five and one-half to five and three-fourths, when actually no honey is moving at a price above five and one-half cents. The market is only at price where there is ready cash for its purchase.

Beekeepers can help improve the marketing situation by clearing their ranks of an element, however small, who think honey is marketable in any condition they may see fit to send it. They should emphasize among themselves that honey should be well ripened thoroughly cleaned and placed in new containers only. The condition of honey that reaches warehouses can be judged only by those who handle it.

I had occasion some years ago to

help in one of the warehouses of the old California Beekeepers Exchange, that striking effort of beekeepers to enter the field of marketing, which ended in disaster to most of us. In this warehouse were a number of cans of honey, some of which were the equal of any ever produced, some of which were fermenting, with cans bursting, honey trickling across the cement floor, cans ruined, cases daubed—a mess that would startle a dealer at the door. This honey was graded mostly on color, with slight attention to body. From the memory of that warehouse I can see how the man who places a really fine grade of honey on the market must pool his crop with inferior grades which form a market level on which the buyer can quote in safety. It would be greatly to the advantage of producers if every one would present a quality that could be classed as high and thus assure the buyer of safety in paying a price on which he would sustain no loss from a shipment unclean or unripe. When a buyer has to resort to the task of reconditioning a poor lot, the producer of a fancy grade must suffer in price to the extent that will help overcome that loss, much the same as a merchant who gives credit must charge the cash and honest customers a price that will help overcome the loss on bad bills.

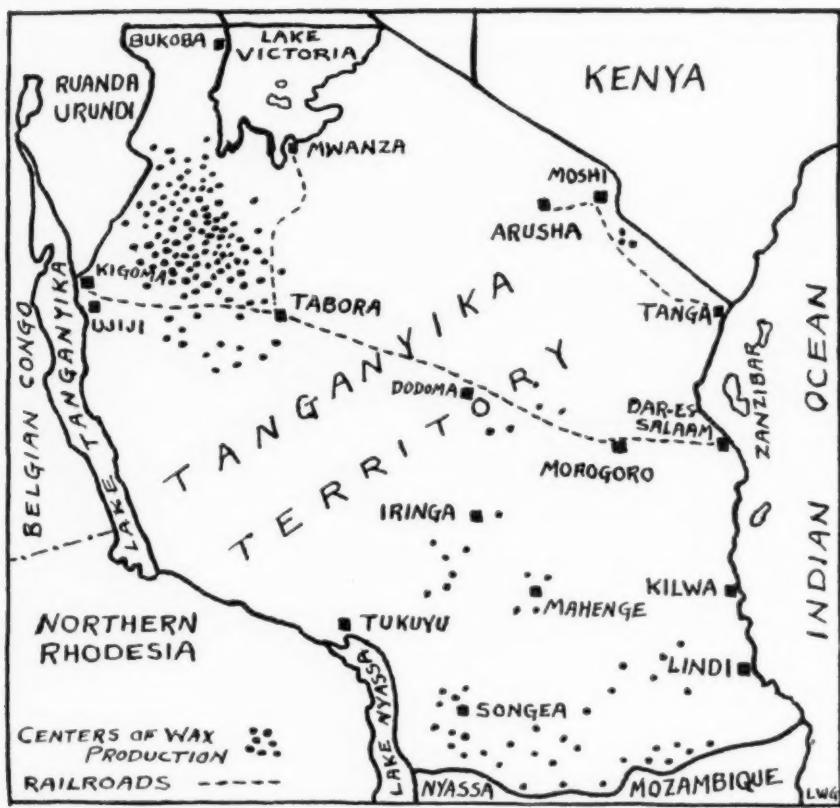
Improving the market should begin with the producer in the form of care and pride in the preparation of his honey. Cooperate with the buyers, for they can have object in forcing prices down and are dealing on a margin that, if increased, would invite competition and would curtail their volume of business. The buyer, after all, is the backbone of our industry; otherwise we could not carry on.

ABJ

## Wells M. White

Wells M. White, well-known beekeeper, died December 7 at his farm near Browntown, Wisconsin, following a year's illness. Mr. White had been located on his present farm since 1887, where he conducted a good sized apiary. He is survived by two sons and a brother.

H. C. Brunner,  
Wisconsin.



Author's map of Tanganyika Territory, British possession on the eastern coast of Africa.

# Beeswax Production in Tanganyika Territory

By L. Wilson Greene,

Maryland.

THE author mentioned in a previous article in this journal (1) that except for India, Tanganyika produced more beeswax than any other British possession. Through the courtesy of Mr. W. Victor Harris, Entomologist of the Tanganyika Territory Department of Agriculture at Morogoro, it is possible to present here some interesting facts concerning the wax industry in that colony.

Before the World War, what is now called Tanganyika Territory was a large part of German East Africa; in fact, it was Germany's most important African possession and one she would like to regain today. It is now a British mandate. The capital, Dar-es-Salaam ("Place of Peace") is a picturesque settlement just 6° south of the Equator. The Territory has an area of approximately 360,000 square miles supporting a population of about five millions.



Native putting old comb into a vessel to be melted over an open fire.

Boyce (2) states that the country is generally unsatisfactory for white habitation although others have claimed that the southwest portion is suitable for European settlement. Much of it is barren and malaria and other tropical diseases are prevalent in the elevated interior as well as along the swamp belt on the coast. The highest mountain in Africa, Kilimanjaro, rises to 19,391 feet in the northern part of the colony.

#### Productive Areas

The section where most of the wax is produced lies west of the Tabora-Mwanza Railway and extends up to the Ruanda Urundi border. This is shown on the accompanying map (Fig. 1) which has been adapted from one previously published by Mr. Harris (3). The wax from this locality, called Tabora wax in the trade, brings a higher price than that from other districts because of its uniform light tan shade and lower content of dirt. The hinterland of Lindi and Kilwa produces a wax varying in color from a pale yellow to a deep chocolate, and ordinarily contains more dirt than Tabora wax. Other districts producing wax are those of Rufiji and Iringa while very little comes from the northern and Tanga Provinces, although a large number of hives are found on the slopes of Kilimanjaro and in the Usambara mountains (4). In general, beeswax is produced in locations unsuited for the growth of other cash crops and thus we find it an important commodity in sections poor in agricultural possibilities.

#### Production Methods

Honey and wax are usually collected from wild nests or from rude



Natives pouring liquid wax and water through a grass strainer.

native hives scattered through the bush. Harris (3) states that six types of hives are known and describes them as follows:

1. A log hollowed out by fire from both ends, the ends then being closed again by a piece of bark, clay or a bung of dried grass.
2. A log hollowed out by an ax after having first been split longitudinally. The ends are not cut away, but contain small holes to serve as entrance for the bees. When the two parts have been hollowed out, they are placed together and held with bark rope. Comb is removed by separating the two parts of the hive.

3. A piece of the bark of trees of the genus *Brachystegia* is cut, then bent into a cylinder, and the edges secured by three or four wooden skewers. The ends are closed by circular pieces of bark held in position by diagonal strips of wood.

4. A cylinder is made of the soft inner bark of *Brachystegia*, which is pliable when moist and can be sewn with bark cord. It is possible to make much wider cylinders by this method. The ends are closed by circular pieces of bark to which plaited straw is sewn to make a tight joint. The hives are well thatched with grass to protect them from sun and rain.

5. In Bukoba, a cylindrical hive is made by covering a framework of light bamboo sticks with a thick layer of dried banana leaves. Circular pieces of wood at the ends insure rigidity, and a light but strong hive is obtained.

6. Cylinders of woven grass are utilized by the Watsui in the west of the Territory. They are similar to 4, above.

The method of collecting honey and wax, whether from wild nests in hollow trees and rock crevices or from the native hives, is to build a smoke fire to drive the bees out. Smoldering branches are held at the openings as the bees emerge. An old Swahili proverb says that all the thanks a bee gets is fire. But occasionally one finds real beekeepers who try to preserve the swarms and sometimes a special wood is burned to produce a smoke that stupefies the bees but does not drive all of them away.

Following the eviction of the bees the comb is removed from the hive



Forcing wax through strainer by means of sticks.

and divided into three portions, depending on their nature. Honeycomb is placed in a pot and heated until warm enough to allow the honey to be squeezed out by hand. Brood comb is chewed until nothing but wax remains, and the empty comb is mixed with wax remaining from the other portions and the whole is thrown into a pot and melted with water. The melted wax is strained through a bag of woven grass shaped somewhat like a stocking, two flat sticks being twisted on the bag to furnish pressure for forcing the wax out. The mixture of wax and water from the filter bag is allowed to cool and while the former is still plastic it is molded into balls by hand. In the more primitive districts wax and water are separated by pouring the hot mixture into holes in the ground. This method is not only wasteful but results in a product heavily contaminated with small pebbles and dirt. In some localities the wax is subjected to a second melting in clean water, filtered through coarse cloth and then cast into cakes, using enameled basins as molds.

The photographs illustrate native methods of extracting the wax. Fig. 2 shows a native placing comb in the melting pot. In Fig. 3 the hot wax and water are being poured into a grass strainer, and in Fig. 4 pressure is being applied to the strainer by means of sticks.

Considerable effort has been exerted by government officials to educate the natives regarding the proper way of preparing high quality wax. Even though local traders usually melt their purchases into *debe* (4 gal.) molds, which may result in a certain amount of cleaning, a high grade raw wax commands a premium. In 1930 the government entomologist made certain recommendations for the guidance of native producers (4). He stated that the grass filter bag ("kumoto") should always be used and that in no case should old paraffin tins be employed in wax preparation as rust spots are difficult to eradicate. It was further recommended that heating the comb with little or no water, or prolonged boiling of the wax and water, be discontinued as well as the mixing of the dark and light grades together. Of course, the practice of pouring wax into holes in the ground was discouraged.

During 1936 the policy relating to extension work in native beekeeping was changed to concentrate all efforts on wax (5). Attempts to introduce a queen-excluder type of hive, developed by the Tanganyika Department of Agriculture, did not meet with success among the main wax-producing tribes, so the natives were simply encouraged to construct the local type of hive. Twenty-one

natives, representing eight districts, were brought to the Entomological Laboratory at Morogoro and given a course in beekeeping and the preparation of wax. By means of lantern projections, moving pictures and diagrams, an effort was made to interest the men in the life history of the bee so that they would obtain a background for the study of wax preparation. This course was repeated in 1937.

#### Grades of Wax

Much of the beeswax produced in the Territory is exported as "Dar-es-Salaam sorts," and comprises sacks of small pieces of wax varying in color from red to pale yellow. Most of this wax comes from the Western Province and the pieces are free from obvious dirt. The red Dar-es-Salaam wax and all wax passing through other ports is classed as ordinary East African, and does not bring as high a price as the pale yellow variety. This latter is produced mostly in the *Brachystegia-Berlina* woodlands, while the upland areas yield darker colors, increasing in depth of color with increasing altitude. The redder shades of wax are produced in *Acacia* savannahs and the *Combretum* woodland (6).

In an attempt to develop a standard packing for export, mixed colors were melted together but the resulting shade was judged by many brokers to be distinctly inferior to red alone.

The author has examined samples of beeswax sent to him from Tanganyika and they certainly compare favorably as to quality with any crude wax he has seen. A specimen of bleached wax was also supplied and, although the color of the sample was very pale, Mr. Harris stated that the local bleaching industry did not develop.

The following ordinance governing the exportation of the product was designed to regulate the grading of Tanganyika beeswax, and to prevent the introduction of wax from other sources:

- These rules may be cited as the Produce Export (Beeswax) Rules, 1936, and shall come into force on April, 1936.

- All beeswax exported from the Territory shall be packed in bags of substantial sacking or other material to the satisfaction of the inspector or of a customs officer.

- No beeswax shall be exported from the Territory except in pieces not exceeding eight ounces in weight.

- (1). Every bag containing beeswax intended for export which is produced in the Eastern, Central, Iringa, Western and Lake Provinces and in the Kilwa District of the southern province shall be plainly marked with the letters "D S M" not less than three inches high and the

words "Produce of Tanganyika" in letters not less than three inches high.

- (2). No such beeswax shall be exported except from the ports of Dar-es-Salaam or Kilwa.

- (1). Every bag containing beeswax intended for export which is produced in the Northern or Tanga Provinces shall be plainly marked with the letters "T G A" not less than three inches high and the words "Produce of Tanganyika" in letter not less than three inches high.

- (2). No such beeswax shall be exported except through the port of Tanga.

- (1). Every bag containing beeswax intended for export which is produced in the southern province other than the Kilwa District shall be plainly marked with letters "L D I" not less than three inches high and the words "Produce of Tanganyika" in letters not less than three inches high.

- (2). No such produce shall be exported except from the ports of Lindi or Mikindani.

The foregoing regulations are given in detail so that importers in the United States may recognize Tanganyika wax and the district in which it was produced.

#### Export Statistics

Year	Quantity in tons	Total value*	Value per lb.
1923	338	\$112,000	\$0.166
1924	476	208,630	0.219
1925	328	207,360	0.316
1926	344	233,670	0.301
1927	626	392,090	0.314
1928	550	344,730	0.313
1929	376	233,520	0.310
1930	211	98,440	0.231
1931	680	228,000	0.168
1934	456	158,630	0.174
1935	531	224,310	0.211
1936	524	253,390	0.242
1937	738	396,040	0.275

\*For the above calculations the pound sterling was figured at \$4.85.

#### References

- L. W. Greene. American Bee Journal **78**, 118-9 (1938).
- W. D. Boyce. *Illustrated Africa*, Rand McNally & Co., Chicago (1925), pp. 385-90.
- W. V. Harris. Tropical Agriculture **9**, 231-5 (1932).
- Ibid. Dept. Agr. Tanganyika Territory, Entomological Leaflet No. 10, 2 pp. (1931).
- Ibid. Annual Report of the Entomologist (1936).
- Ibid. Annual Report of the Assistant Entomologist (1934).

ABJ

## Well! Well!

Three years of American Bee Journal never gave us one useful thing. You will never have anything from us in the future.

Just-A-Wee Farm,  
Minnesota.

# Improving the Distribution of Honey Through Advertising

By H. E. Coffey,

Texas.

A CHIEF purpose of advertising is to aid in distribution. Hence the Harold J. Clay and George A. Smith articles in July A. B. J. are closely related; but whereas, Mr. Clay's article is constructive and suggests a way out, Mr. Smith's discussion, condemnatory and based on several false premises reaches several illogical conclusions.

It is impossible to advertise any product like honey and have only profit and success. Within any given period (taking all advertising as a whole) some advertising must put its sponsors in the red. Everyone, however, seeks to use only profitable advertising. I agree that advertisers may discard principles of honor and fair play, and this is why our government prescribes rules of the game. An adulterated honey cannot be sold as "pure." There are other rules about misrepresentation, net weight, etc., which must be observed.

Mr. Smith should have told us what he meant by "low grade inferior honey," for some may think he means dark honey, and no two beekeepers are likely to agree on exactly what he means. There are many who regard dark honey as superior to white honey. Mr. George Bohne of Louisiana sells his "waffle paste" at a premium over clover honey.

I am inclined to believe that most consumers prefer a light honey, mild in flavor; but if I were a producer of dark honey I would wish to have the privilege of selling my product to consumers. Why should producers of white honey deny me this privilege?

It probably costs a producer of dark honey as much to produce dark honey as it costs others to produce white honey. This much is certain, that no producer can stay in business very long and produce at a price that does not cover production costs. If the practice Mr. Smith

complains about is what I take it to be, selling dark honey, then this producer must be covering his production costs if he has been selling this honey for a number of years.

Is it not possible that many people who could not afford to buy honey at higher prices are buying this "inferior honey" much to their advantage? If the honey contains a few bits of beeswax, bee legs and wings, and some pollen—this may aid in the sale of the honey, for people may feel that they are getting a genuine beehive product. Indeed, I am not so sure but that what Mr. Smith condemns as "adverse, injurious, and business-killing" advertising may be quite the reverse. Poor people who otherwise could not afford honey may now have it; people of means who try this honey once will—if they do not like it—be careful next time to buy a light and mild honey, and will not object so to its higher price.

If there is anything dishonest about this practice which Mr. Smith complains of, California, I am advised, has adequate laws governing the grading, packing, and sale of honey which should be appealed to. This very practice complained of by Mr. Smith will—to quote Mr. Clay—make it possible "for a long time to come" that "millions of people" will "prefer to buy their honey directly from the beekeeper." I think he should have added, however that they think they are getting the honey cheaper, as well as a pure product.

Mr. Smith has the mistaken idea that the cost of advertising must be passed on to the consumer. If we advertise honey then, according to Mr. Smith, we must increase the price of honey. Mr. Clay suggests a better way: Increase the production of honey. From an economic standpoint advertising is informational utility; advertising performs a function in the system of distribution which could not be accom-

plished as cheaply by any other means. Actually advertising has made our highly centralized industrial system possible. Look at the automotive and other great industries. They were built by advertising. Will Mr. Smith tell us by what other means national distribution of these products could have been secured more cheaply than by advertising?

Advertising, then, is not passed on to the consumer any more than is the cost of any other production cost. Advertising should be thought of as one of the costs of production—a distribution cost. It costs only a fraction of a cent per can to advertise a well known brand of soup. It costs only 14 cents per pair to advertise a popular brand of dress shoes. Because these shoes sell at a higher price than dress shoes sold 50 years ago does not mean that advertising has increased the price.

I must not go into this subject of advertising cost, but I wish to suggest that it is the popular and erroneous ideas that beekeepers have about advertising that have caused them to make many false moves. They attempted, once upon a time, a national advertising of honey because they really believed that the cost of advertising could be passed on to the consumer. Once get this point clear, and many mistakes can be avoided.

Mr. Clay's suggestion for increasing the production of honey is sound. One must have sufficient volume to advertise before advertising on a national scale can be profitable. With sufficient production, advertising can gain for honey advantages in lower distribution costs that will actually enable the consumer to get honey cheaper than they are now getting it; and I believe, Mr. Smith, that when that is accomplished you will not need to worry about the problem that now clouds your financial outlook.

# A Compact Extracting Plant

MELFORD Olson, of Minnesota, has a very compact and efficient honey extracting plant. The extracting equipment is located in a part of the honey house where there is lots of good light and plenty of ventilation from windows and a large double door. The extracting equipment is carefully arranged in a compact and efficient manner. All of the working equipment from the uncapper to the storage tanks are placed in an area approximately eighteen feet long and ten feet wide.

The uncapping is done by two men using steam heated knives. For a capping melter, Olson uses a large size Brand capping melter. He enlarged the basket into which the cappings fall to allow more room for two

men to uncaps at the same time. The honey from the tank of the capping melter runs by gravity to a common sump as does the honey from the two large radial extractors. The beeswax from the capping melter is run into cans to form clean light yellow cakes ready to be sold on the market.

As the combs are uncapped, they are placed on a merry-go-round until the extractors are ready to take them. Any dripping of honey gradually runs out of a hole in the stationary pan into a funnel which is connected with the pipe line carrying the honey from the capping melter to the common honey sump. Thus, the honey which drips from the combs while they are waiting to be extracted is efficiently taken care of.

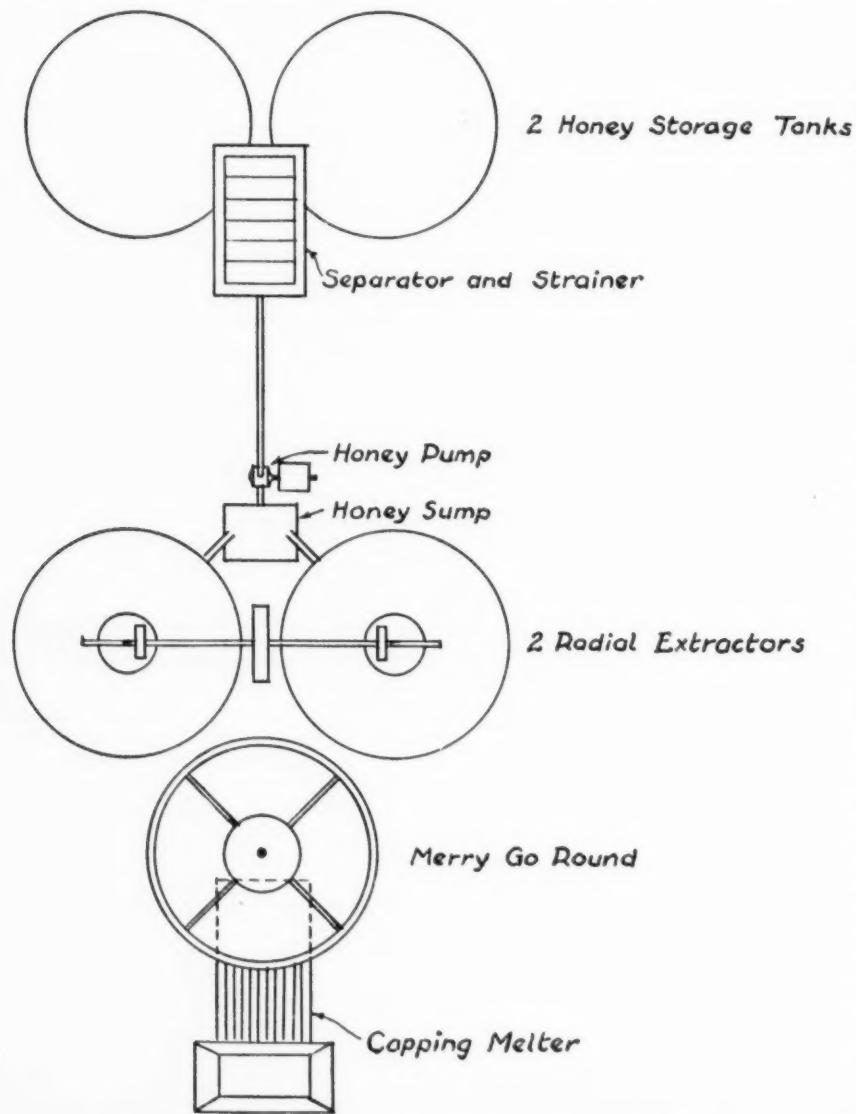
The two large radial extractors are driven by a single one-horse power motor which also drives the honey pump. The honey flows from the capping melter; the merry-go-round and the two extractors into the common honey sump through a coarse screen which removes the greater part of any foreign material. The honey is then pumped overhead to a water jacketed gravity separator and strainer and here the balance of wax particles and other foreign material is gradually separated from the honey. The temperature of the honey also is raised at this stage to any desired degree before the honey is allowed to run into the large storage tanks. Olson has sufficient tank storage to allow the honey to stand for a day or more before it is drawn into the sixty pound containers.

Olson has a good device for raising and lowering the lids of the radial extractors. This device allows the lids to be closed during the time the extractors are running and easily raises them while the combs are being placed in the extractor. With the lid down while the extractor is in operation, there is no possibility of injury to the operator, and nothing can be dropped into the rapidly whirling extractor reel. Further, the fine spray of honey which the radials throw out is confined in the extractor tank.

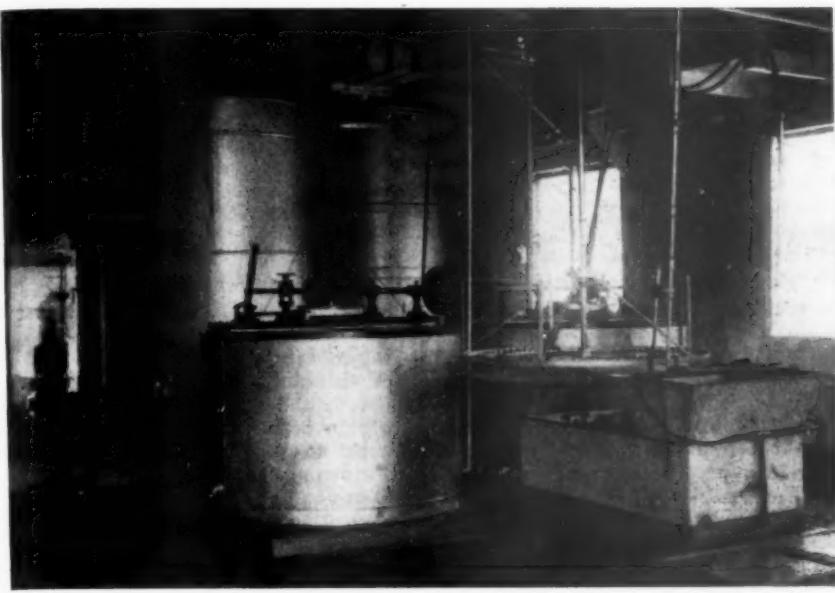
To accomplish this the extractor lids are cut out to allow them to open past the large friction drive plate. They are then hinged on each side, and with the chains, pulleys and counter weights as shown in the diagram, it is possible to raise the lids or close them without fastening, the counter weight acting as the pull lever.

The floor of the extracting plant is concrete and well sloped to drain it. This enables the men who operate the extracting plant to keep the floor thoroughly clean at all times. As the supers are unloaded from the trucks which bring them from the yard, they are placed on trays. That is, each stack of supers fits on a tray which catches any honey which drips from the burr comb or any possible broken comb in the stacks of supers. The tray is so constructed that an ordinary two-wheeled truck with its lifting base extended, can be pushed under the tray. The entire stack of supers can then be moved to any point desired in the honey house.

The Olson honey house is clean, neat, and everything is in good order at all times. All of the equipment is painted with aluminum and, liter-



Floor arrangement of major pieces of extracting equipment in the Olson honey house.



View of the extracting plant from the capping melter across the extractors to the settling tanks and boiler (not shown in diagram).

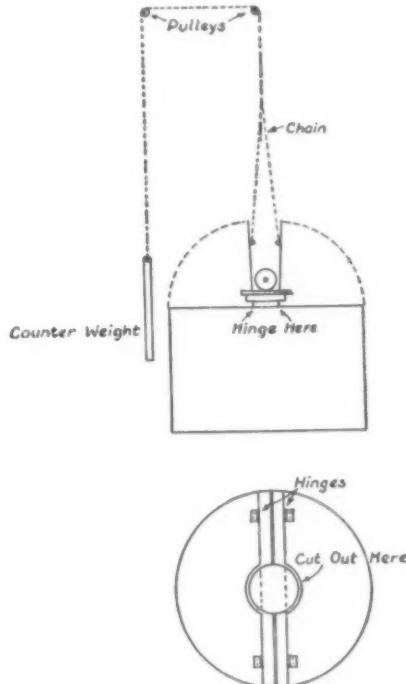
ally, things just shine. It is a place of which to be proud. This cannot always be said of some honey houses we have visited. However, we should have pride in our product and each of us should see that honey is handled in such a way that visitors would be welcome at all times.

ABJ

## Bee Culture in British Columbia

A revised reprint of the bulletin, "Bee Culture in British Columbia," by A. W. Finlay, Provincial Apiarist, has recently appeared. This is a publication of more than usual interest which has been issued from time to time for some years past. Each revision brings the publication up-to-date and keeps step with advance in the industry.

The design is to serve the novice with full information as to the right kind of equipment to use, where to secure needed items and the sources of honey in the province. The bulletin contains 56 large pages and can be obtained from the Department of Agriculture at Victoria, British Columbia.



Diagrams of Olson's device for raising and lowering the lids of his radial extractors.

ABJ

## A Pretty Kettle of Fish

By Harold Luckner,  
Oregon.

MY friends and neighbors know that I will give them a five pound can of honey for every swarm of bees they find for me. That means that they keep their eyes open for

me and that I pick up a few swarms every season. Usually the swarms are clustered close to the ground and the job presents no particular difficulties. Three or four days ago

though, a neighbor told me to come into the woods with him. I did. This woods consists of a dense growth of very slender fir trees. They average a little better than a hundred feet high. My neighbor pointed out a swarm clustered on a limb about eight feet from the trunk of one of these trees and about seventy-five feet from the ground. The tree had quite a number of dead branches for about the first sixty-five feet. These branches were rotten and wouldn't support the weight of a man. I couldn't cut the tree down—not if I wanted to keep out of jail. I wouldn't have done it anyway. I've had too much experience with that kind of thing. The bees will often go back at about the same height into another tree close by. By the time you get the bees the woods looks like a logging crew has been through the place. But I had to have those bees. This is a pretty kettle of fish, I said.

I borrowed a pair of climbing spurs and a long rope. I made a practice climb of about ten feet. That took a lot of the enthusiasm out of me because the spurs kept slipping. I knew if they did that at seventy-five feet the world would lose a valuable citizen. Then my neighbor corrected me. He told me to hold my legs at an angle of about forty-five degrees from the tree and to take short steps. I tried it and had little trouble. Then I started up. I didn't have much enthusiasm for that kind of a job. Spurs were new to me and I didn't feel that I could trust them. I have spent a good many hours swaying in the wind in the tops of trees, much higher than seventy-five feet, but I have always chosen trees with live limbs or with smooth trunks and shinnied up them. However, the higher I climbed the more confidence I gained. When I got up into the live branches I was all right. I tied myself to the trunk of the tree so I could work with both hands. I pulled up a saw on the end of the rope and cut the limbs out of the way. Then I sawed the one with the bees on. I had it tied with a rope to a higher limb and steadied it the best I could with one hand. But when it let go about half the bees fell off. They came back though and settled again in a few minutes. Then I lowered the branch slowly and carefully to the ground and landed it on top of an open hive. Then my neighbor untied the rope. I passed it around a couple of branches and slid down it to the ground. That was the quickest and easiest way to get there. It was a medium sized swarm of Italians with a virgin queen. The whole business took about two hours and I scraped both my arms raw on the rough bark of the tree. The bees really weren't worth it. But I got them. I've never seen a swarm yet that I couldn't get.

# Honey as a Health Food

By Penn G. Snyder,  
Ohio.

**T**HIS title and the following is a reprint in part of an article on honey which appeared in "The College Journal" published by the Kansas City College of Osteopathy and Surgery. The article was written by one of the college staff, Annie G. Hedges, D. O.

As this publication reaches most of the Osteopathic physicians in the United States, and as a body they prescribe and recommend the use of honey to their patients, they undoubtedly help us all in the sale of our product. I now quote Dr. Hedges:

"Food elements are classed as: protein, fat, carbohydrate, mineral salts, water, vitamins and sunshine.

"We will deal at this time mostly with carbohydrates, with a brief resume of other food elements, as they are so interrelated that there cannot be a lack of any one without upsetting the balance of all of the body economy.

"Protein contains the structural units of protoplasm—the amino acids which build the body tissues.

"Fat is one of the energy foods and has a definite and important function in promoting mineral metabolism, particularly calcium, but fat cannot be completely oxidized unless a certain amount of carbohydrates is undergoing simultaneous exudation. Thus a depletion of the alkali reserve may take place with a resulting acidosis.

"Mineral salts play an important part in maintaining the acid-base equilibrium of the body. They also assist in the functions of secretion, excretion, absorption and retention. Animal experimentation has shown that when all of the other elements are supplied in adequate amounts, if calcium and sodium chloride are lacking, both growth and weight cease.

"Sunshine. All the metabolic processes, especially those of the mineral salts, are influenced by sunlight, probably most by the ultra-violet ray of sunlight which promotes the absorption and retention of both calcium and phosphorus.

"Carbohydrates represent the most readily absorbed and combusted of all foods. They supply both energy and heat during the process of oxidation. They include both sugars and starches which are broken down for use by the ferment lactose, invertase and maltose into their simple

elements or monosaccharids, in which form they are absorbed.

"Sugars aid materially in the absorption of fats by delaying the formation of insoluble soaps. They are stimulating to gastric motility and secretion and are the first of the food elements to leave the stomach.

"Fermentation varies with the type of sugar. Lactose fermentation is lactic acid in type; maltose fermentation is butyric in type; and sucrose fermentation is ALCOHOLIC in type.

"All the more complex sugars must be reduced to monosaccharids before absorption can take place. This fact alone will explain some of the great advantages of HONEY in the diet of the pregnant and nursing mother and also of the young child. One tablespoon of lactose contains 40 calories; the same amount of sucrose, 60 calories; while honey which is a combination of levulose, dextrose and sucrose has a caloric value of about 100 calories to each tablespoon.

"Dextrose is found in abundance in many plants and is usually in combination with some other sugar, levulose or sucrose or both. It has many interesting properties among which are its power of crystal formation which causes the granulation of honey and its ability to combine itself to form more complex carbohydrates. In its simple form as it is found in honey it is easily absorbed. It is readily soluble in water. It is easily manufactured from various starches and sold as "corn sugar" or "glucose."

"The combination of two molecules of dextrose makes maltose, but the combination of many molecules is necessary for the formation of starch. A dextrose similar in composition to that made from corn, that is containing the same number of atoms of carbon, hydrogen and oxygen, is found in the blood, but the two differ greatly in taste and in chemical and physical properties. Dextrose is only about one-half as sweet as cane sugar, which is more complex, and about one-third to one-half as sweet as levulose, which has the same number of carbon, hydrogen and oxygen atoms, but differently arranged.

"Honey is sometimes said to be "predigested" but this is not exactly true, though the bees in some manner

break down cane sugar into levulose and dextrose. It has been found that invertase which is responsible for this action, is present in every part of the adult bee and they are able in some way to add this substance to the nectar in the process of ripening.

"Sucrose is the ordinary cane sugar which is well known and is present in such small amounts that no more will be said about it here.

"Honey differs from other foods in that it is a natural food and has not been denatured. A combination of levulose, dextrose and sucrose behaves differently from any one of those sugars alone. When they are in just the right proportions in honey it does not crystallize. When honey crystallizes slowly it forms crystals of large size, so if a fine granulation is desired this is best accomplished by stirring. Another interesting fact is that the size of the crystals makes a difference in the taste.

"The minerals in honey assist in maintaining it in solution. No enzyme has been found in honey which is capable of causing alcoholic fermentations, so whatever fermentation takes place is probably caused by some of the yeasts.

"Nectar is manufactured in the plant by the action of the sunlight and chlorophyll (which acts as a catalyst), on carbon dioxide and water. It is most amazing that chlorophyll has the ability to combine carbon dioxide and water, neither of which has energy or fuel value, to form sugars which have high food and energy values.

"The color of honey is due largely to the absorption of light waves, this absorption does not take place equally with different wave lengths and varies with certain substances found in honey, mainly carotin, xanthophyll, and chlorophyll. Chlorophyll looks green but absorbs red light which is known to be the most effective light in the production of sugars in the leaves of the plant. Chlorophyll also absorbs blue light as does carotin, but both permit orange, yellow and green lights to pass through them. The fact that honey contains at least five light absorbing materials (two of which are not so well known) accounts for the great variation in color. One coloring material which affects flavor

is tannin which is found chiefly in buckwheat and some alfalfa honeys.

"The flavor of honey is due chiefly to odor rather than taste and is derived from the flowers producing the nectar.

"Various uses may be made of honey which should be made a standard product in every pantry. Drinks of fruit juice sweetened with honey, particularly orange juice are very palatable and furnish a lot of energy very quickly to anyone who is making heavy demands on the energy reserve of the body. Children should be given more honey and less candy and other sweets. Honey and fruit juices are greatly appreciated by the pregnant mother between regular meals. Sugar in most recipes may be replaced in part by honey, bearing in mind the greater sweetness of honey and the fact that it contains more moisture."

This concludes the reprint in part of Dr. Hedges' article.

The subject which this article covers is one I have been hammering at for some years. Interest your family physician in honey, also any other physician you may come in contact with. However, before you approach your physician, you yourself should know all that you can possibly learn about the value of honey as a health food; its ease of assimilation; the rapidity in which it yields energy to the human body as well as its high caloric value in food units. Remember honey is your livelihood and you should know as much about your product as possible.

You have but the one subject to learn, the metabolism of honey. The physician must study the ingestion of all food products among which are the carbohydrates. Honey belongs in this class and its many values in the human diet place it in a class by itself. It plays a far smaller part among the carbohydrate foods than it is entitled to, governed by its real merits as a building food for both health and sickness.

Any physician with whom you may be able to talk must have at least a smattering of the entire food needs of the human body; its needs under differences of age levels; the needs of the difference caused by the varied classes of work performed by their patients as well as their needs in health and sickness. In other words the physician has much to keep in mind.

It might be possible for you as a beekeeper to know more of the metabolism of honey in the human body than the average physician. If you can sell yourself in this subject you have an excellent chance of selling your physician. If we beekeepers can gather sufficient data on honey which will go to show that honey is the one best sweet to keep the human body in normal health and sell this

to the physicians of the United States we will have difficulty in supplying the demand which this alone would create.

Keep in mind the tendency of the modern physician is toward preventable measures. In days gone by one's doctor endeavored to cure one when sickness overtook us. Today, through proper food, exercise and the proper hygiene and occasional medical examination, they endeavor to ward off sickness.

I think I will be playing safe when I say 24 out of 25 physicians recommend to the mothers of our children the use of corn products syrup which is glucose or, some high sounding and high priced sugar as the one best sweet for the baby or child.

With one exception I believe honey will do anything any of the other sugar foods will do and then go beyond them and do it much better by yielding to the body such substances as minerals, enzymes and some vitamins which the other manufactured sugars do not possess. Always keep in mind the natural foods unprocessed and unadulterated are looked upon as the best for health of all our foods. Honey is certainly a natural food unadulterated.

The one exception is where glucose is fed interveinously by means of a hypodermic syringe. However it is just possible honey could be used for this purpose if processed by the new method devised by Messrs. Lothrop and Paine of the Department of Agriculture described on page 720 of the December, 1934 number of Gleanings in Bee Culture.

In the article by Dr. Hedges there are four points brought out which I feel are important to us beekeepers.

First: Fats need carbohydrates while they are being digested.

Second: The fact not generally understood that our common sugars which we Americans use in such great volume in being ingested produce a type of fermentation which is ALCOHOLIC.

Third: The statement that the levulose or fruit sugar of honey "is the sweetest of all our sweets is more easily absorbed than any other sweet. It is said to be the most important sugar in the building of body tissues."

Fourth: To quote again, "When all of the other food elements are supplied in adequate amounts, if calcium and sodium chloride are lacking, both growth and weight will cease."

It is a scientifically known fact that our commercial sugars cause a depletion of the lime base of our systems. Putting these two facts together it can be readily seen one of the big reasons why honey should be extensively used because instead of taking from our lime reserve,

honey adds to them.

The third point is very important as honey a carbohydrate food here enters the field of the proteins which are the normal substances used by the body in building tissue.

On October 17, 1934, Dr. Hedges appeared on the Farmers' Week Program at the State School of Agriculture, Columbia, Mo., giving a talk on honey for the students and young mothers. Much of the above article was incorporated in her talk in plain nontechnical language.

ABJ

## Brood Rearing

Bees have natural processes that no man can interrupt, governed by hosts of natural laws; in the spring when the temperatures rise and the honeyflow becomes apparent, nature demands that the bees begin to produce bees for no other purpose than to keep themselves in existence. They do not have any more reason to do that than a grain of corn which begins to grow for the same reason. Development will increase in exact ratio to the food supply, the capacity of the nurses and the temperature outside and within the colony.

If conditions are perfect, the bees will expand rapidly. When the watery nectar is coming in the bees automatically produce a great colony of workers to gather honey crop for the protection of the colony against food shortage. When the incoming nectar increases in quantity the bees begin to store surplus beyond their needs, and if this honeyflow continues and plenty of pollen is coming in, brood rearing will continue on a buoyant scale to the end of the flow. Now, if, with these conditions prevailing, the honeyflow ends abruptly a few weeks before winter begins, the beekeeper will find his hives full of bees in all stages of development. The bees will not kill and throw out young bees, but will rear them on the stores in the hives, and a beekeeper will find that for winter a very large amount of honey is necessary. Bees will not cease brood rearing even when outside conditions are unfavorable to it.

Bees rear brood where there is plenty of pollen, moist warm air, and nectar. On the other hand, they contract their brood nest and diminish their brood rearing when the air becomes dry, pollen scarce, and nectar grows thick and dry in the plants. When these conditions slip up on the bees, they automatically begin to crowd the queen out by filling cells in the brood nest with honey. Colonies thus reduced will have a rich brood nest and will not require much honey for winter use.

T. P. Robinson,  
Texas.



# Beeskeeping in the Land of the Pyramids

By M. J. Presswalla,  
India.

THE culture of the Egyptian honeybee, *Apis fasciata*, has been carried on for the past 4,000 years and more, with result that there is not a single colony of this bee found wild in nature today. *Apis fasciata* is undoubtedly the first species of bee to be domesticated. Figures of the honeybee and honeycombs are frequently found on ancient Egyptian tombs several thousand years old. On the coffin of King Mykerinos (3,600 B. C.), now in the British Museum, among other inscriptions there is a figure of the honeybee. During that period the cultivation of bees was widely practised in Egypt.

The Egyptian honeybee is one of the most beautiful species of *Apis*. It resembles the Italian bee in color, with prominent yellow bands on the abdomen, but in addition it has a coat of white hair which adds to its appearance. It is, however, a smaller insect than any of the European races of bees, but in spite of its small size it constructs fairly large cells and consequently readily utilizes artificial foundations made for European bees.

The Egyptian bee is probably the mother of several races of bees, such as the Cyprian, Holy Land, and Grecian bees. Although cultivated for thousands of years the Egyptian bee has a very vicious temper. It is a fast and active worker, but it does not collect much honey—ten to fifteen pounds per hive per year being a good return. It is free from any disease such as foulbrood which is so common among the Western races of bees. It has, however, two great enemies, the wax moth and the oriental hornet, the latter being a very serious pest in the apiaries in Egypt from August to October.

The cultivation of the Egyptian honeybee by native Egyptians is done in cylindrical mud hives. The mud hive in general use today resembles very much the beehive depicted on ancient Egyptian monuments. The

cylinder measures about 4½ feet in length and has an inside diameter of about 7 inches, the thickness of the wall being 1 inch.

The construction of this "beladi" or native beehive is a long and laborious process, and takes several days. Mats or sida about 4½ feet long and 2½ feet wide are prepared by tying sticks side by side in a row. These are covered with layers of a mixture of fine clay and "tibn" or chopped straw which has been previously allowed to rot. The whole is then rolled into a cylinder, tied with strings and allowed to bake in the sun in specially prepared trenches. The preparation of the mud and tibn takes about six days, and the drying of the hive about ten days. When made in large numbers the approximate cost of each hive is thirty cents (six pistres). Both ends of the cylinder are closed with discs, also made of mud and straw, and only a small hole is left in the disc at the front end as an entrance for the bees.

There are nearly 600,000 such beehives in Egypt today. In a native apiary the hives are arranged in rows close together on the ground. A second and a third row, up to a maximum of eight, are placed one above the other, the hives in each row resting in the hollows between two hives of the row immediately below it. The row at the bottom is capable of supporting not more than seven or eight rows. The spaces between the hives are filled with straw, and the whole heap is finally smeared over with mud, leaving only the small entrances in each hive free.

Inside these mud hives the bees build from five to twenty almost circular combs suspended from the roof and leaving a little space at the bottom for the bees to move from one comb to another. The combs at the back of the hive are for the brood while those built in the front are for storing honey.

To get the honey, the disc closing

the front end of the hive is removed, the combs of honey are cut off and the honey shaken out of them. By this method, of course, the combs are destroyed and the bees have to construct new combs and consume a lot of honey in doing so. (It is said that to produce one pound of wax the bees utilize about fifteen pounds of honey.)

For inspecting and adjusting the colony—either to remove empty combs, to cut off unwanted queen cells and drone cells, or to divide a strong colony in order to prevent swarming—the beekeeper opens his hive from behind. The native beekeeper possesses a number of special tools for working the hives.

This crude though efficient method of cultivating bees in Egypt is now rapidly being replaced by modern scientific methods of cultivating bees in wooden frame hives.

The Egyptian Ministry of Agriculture has quite recently interested itself in the development of apiculture. In 1926 a beekeeping subsection of the plant protection section was organized "to put beekeeping on a proper basis." The subsection is now attached to the entomological section which is under the direction of the well known entomologist, Dr. W. H. Priesner.

The work of the beekeeping subsection, which is in the able hands of Mostafa Fahmy Bey, assisted by Dr. Riad Abdel-Aziz, both trained apiculturists, is to carry on research in beekeeping, to investigate the Egyptian "beladi" methods of beekeeping, to transfer the bees from the mud hives to modern box hives, to inspect native apiaries and to instruct and advise beekeepers in modern methods of beekeeping, to import foreign bees and to improve the breed of the native bees by either Carniolanizing or Italianizing them, and so on.

Already over 5,000 modern American Langstroth hives have been successfully colonized by bees from



Six "beladi" mud hives, described by the author.

the native hives, and it takes usually three to four colonies from the mud hives to fill up a ten-frame modern hive.

Investigations into the "beladi" methods of beekeeping and the relative merits of the mud hives and the modern hives, the best method of transferring the bees from the mud hives to modern hives, investigations into the life histories of the insect pests of Egyptian apiaries and the best way to combat them, etc., have been successfully carried out during the past few years, and the results published.

Most of the scientific work is done in the main apiary of the Ministry of Agriculture at Giza. The rearing of different species of foreign bees and queens is done in special experimental apiaries isolated at Dakhla, Baharia, and other oases, sufficiently away from contamination by other bees. In course of time this will enable the Egyptian beekeeper to obtain pure Egyptian-bred Italian, Carniolan, and other bees easily and at a less cost than having to procure them from Europe.

The crossbreeding of bees is at present left to nature. Colonies of foreign bees, if kept in proximity to Egyptian bees, invariably get hybridized, the powerful Egyptian drones successfully mating with foreign queen bees. This is deplorable because, in this way, instead of the Egyptian colonies becoming crossed and improved by foreign blood, it is the European bees that lose their purity and become poor hybrids. The hybrids generally resemble the Egyptian bee in color, but in habit they are a mixture of both the parents. They form larger colonies

and collect a greater quantity of honey than the pure Egyptian. In temper they are like the male parent, as this character is here transmitted through the males, and so retain the nervousness of the Egyptian bee.

This state of affairs cannot be improved until easily workable artificial methods of insemination are found. A method of instrumental insemination of queens has been invented and perfected by Dr. L. R. Watson in America, but it has as yet achieved only laboratory success in the hands of skilled scientists.

Beekeeping in Egypt has a bright future, and the Egyptian Ministry of Agriculture has taken a step in the right direction.

## Bee Stings After a Full Meal

Shortly after I began keeping bees (1918), I went out one Sunday afternoon to look through a colony which I suspected of swarming preparations and received a single sting on the neck. Within a few moments I became violently nauseated, my heart began to pound so noticeably that I became alarmed, my hands and feet swelled, and commenced to itch. I returned immediately to the house and went to bed. It took about two hours for these symptoms to wear off.

For several summers when I was in Washington state, I supervised an apiary of about sixty colonies owned and cared for by a farmer. Due to the location and other factors, I was able to visit the yard only twice per summer and in each case tried to go through each colony thoroughly yet cover the yard in one day. I soon came to dread this job, as always, after dinner (which was always a big one due to the hospitality of the farmer) I became nauseated and developed a severe headache. I was getting the usual number of stings both morning and afternoon, but was never troubled until after dinner. Due to the size of the job, I always started in immediately after getting up from the dinner table.

Prior to reading Dr. Beck's publications, I ascribed the headache and nausea to the physical exertion of lifting heavy supers in the hot sun following the meal. I am now inclined to believe that the bee sting poison contributed. The previous experience in 1918, I considered due to a temporary sensitivity to bee toxin.

Natt N. Dodge,  
Arizona.



The main apiary of the Egyptian Ministry of Agriculture, at Giza.



## Far Away New Zealand

Here are two pictures from far away New Zealand. The one at the left is the home yard of a 300 colony apiary in Southland, one of the finest honey producing provinces. The average yield of honey per colony in this apiary over a number of years exceeds 100 pounds. The

main source is white clover which grows in profusion. The honey house (on the right) contains an electrically driven 50-frame Radial extractor. The scene on the right is an outyard of sixty colonies nestled in a sheltered spot.

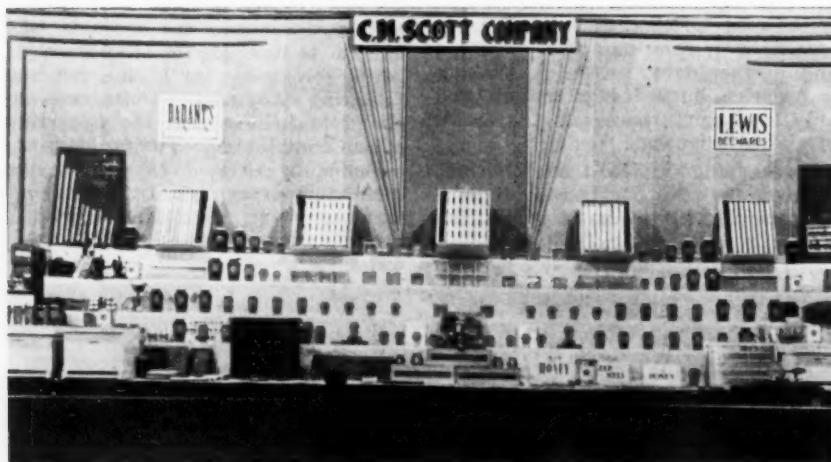
I hope these pictures will bring you

American readers some indication of conditions in New Zealand. If you have any questions about beekeeping in my country, write to the Journal and I will be glad to answer them.

Douglas C. Todd,  
New Zealand.

ABJ

## One Dealer's Exhibit



These two pictures show exhibits used by the C. M. Scott Company, of Indianapolis, at the State Fair in Indiana. The observation hive of three-banded Italian bees was awarded one of the prizes. The bees were entered by Robert Hackett, of Westfield, Indiana. The same hive and comb were sent to the Horticultural Show in Chicago.

## Plan for Cooperative Sales Association For Wisconsin

According to the December issue of "Wisconsin Horticulture," a committee appointed by Arthur Schultz, president of the Wisconsin State Beekeepers' Association, met at Ripon to consider the possibility of organizing a Wisconsin Cooperative Honey Sales Association. Members of the committee were the larger producers having a surplus of honey for sale and for whom such an organization would be of advantage. W. L. Witte, of the Wisconsin Bureau of Markets, and James Gwin advised the committee, and the following plan is being considered: to organize a cooperative organization of honey producers with a low membership fee, say \$5 or \$10; to rent a warehouse in Ripon and have a local beekeeper in charge to receive and sell honey at a minimum of expense on a part-time basis.

Honey in storage, through a government loan up to 60 per cent of the market value of the honey at a low interest rate, may be paid for immediately in cash. As buyers purchase, further payments may be made. Thus, not all surplus honey will be dumped on the market at one time to depress prices. The plan will be particularly valuable in years of large crops. No definite steps have yet been taken.

Be

He  
uncle  
Count  
bee tr  
just  
he w  
from  
"imm  
farm  
which  
timber  
and  
honey  
peach,  
beside

Ex

We  
Sunda  
balmy,  
flight.  
less be  
coun

Fath  
bring  
bees n  
to and  
hurried  
thing  
membe  
goblet  
fortuna  
stacked  
goblet  
only ha  
catch t  
ing dow

When  
going o  
the up  
out a s  
pieces.  
couldn't  
is one  
pensive.



## Bee Tree

Here is a picture I took of my uncle, D. H. Harker, Washington County, Kansas cutting down a bee tree. He never misses a chance, just for the sport of it. Here, he was busy separating the honey from the brood. His pipe kept him "immune." He lives on a little farm near a state game preserve which is largely unbroken or virgin timber. Usually he has 100 colonies and makes his living from bees, honey and fruit. He has apple, peach, pear, cherry and plum trees besides small fruit. About one year

in three, the peach gets nipped in the bud.

They have just enough chickens for their own supply of eggs and broilers. Foxes and coyotes abound in that country, so more might not be desirable.

The game preserve is beautiful, tall white sycamores, every kind of oak and other native trees growing right up to the creek banks. Big boulders and dead tree branches protect the wild flowers and wild berries from the too interested curiosity of quail and pheasants. It would be

impossible to raise any kind of tame fowl near this preserve because of the animals.

So, D. H. is lucky to have had his bees along Coon Creek before the game preserve was started. The bees are a benefit to his fruit and they are much easier to protect than poultry would be.

Then, from my point of view, honey on hot biscuits with tea; man oh man! It tastes like more every time. During this visit I was on my vacation and I never did believe in reducing. My occupation is weaving rugs and raising pedigreed poultry, so I didn't keep any extra weight long.

Opal Harker,  
Iowa.

ABJ

## Utah Conditions

Bees went into the winter in excellent shape in the Rockies, reports G. A. Poulter, bee inspector, of Ogden. "The honey crop in some sections was around 40 per cent, owing to extremely dry weather during the honeyflow season," he reports. "Bee disease problems are being solved better through the co-operation of the beekeepers and we hope in 1939 to decrease the disease to an even smaller percentage than at this time." For example, of 4,000 colonies inspected in one section, only 18 were found diseased.

Glen Perrins,  
Utah.

ABJ

## Expensive Sentiment

We had a snow storm; then the Sunday afterward it was warm and balmy. So the bees had a cleansing flight. There were hundreds of helpless bees in the snow, so chilled they couldn't move.

Father gathered up a handful to bring in the house to revive. The bees next to his skin began to come to and crawl up his sleeve, so he hurried to the cupboard for something to put them under. He remembered there was a large glass goblet on the top shelf but unfortunately it was behind cups stacked two high. He didn't lift the goblet sufficiently to clear and as he only had one hand to use, he couldn't catch the cups as they came crashing down.

When I went in to see what was going on, he was pushing bees under the upturned goblet and was taking out a sting. The cups were in small pieces. The bees revived but they couldn't pay for the damage. This is one time when sentiment was expensive.

Ruth Hodgson,  
Wisconsin.

## Curiosity



This lively and inquisitive young dog wonders what this is and, doubtless, he will soon learn. Benj.

Nielsen, of Aurora, Nebraska, sends the picture and he entitles it "What's this anyway?"



## Crotalaria

A source of some nectar and abundant supply of pollen in the fall months is the Crotalaria, a comparatively new plant used as a cover crop in the citrus groves over the major portion of south Florida. This plant seems to have originated in west Florida years ago and was introduced into south Florida groves from there. In this section it starts to bloom along in September and continues to bloom until frost. It produces a long spike on which the flowers start to open at the bottom, continuing toward the top, usually until frost kills the plant. The flower is of peculiar shape and of yellow-orange color.

Alfred C. Roberts,  
Florida.

ABJ

## British Columbia

British Columbia apiaries yielded a record harvest this season, according to A. W. Finlay, provincial apiarist, the 3,079 apiaries producing about 1,584,120 pounds, as against 1,427,475 pounds in 1937, an increase

of 156,645, and nearly 100,000 pounds higher than the record in 1936.

The average yield was 75 pounds per colony, as against 67.9 pounds last year. Some of the interior apiaries reported phenomenal harvests of 200 pounds or more per colony, with an average of 115 against a coast average of about 60 pounds.

Drought conditions affected production in the Fraser Valley, but the prolonged dry summer tended to help the aggregate yield. The long summer proved ideal for the interior districts.

Advices from the Canadian Honey Association say that the Canadian yield as a whole will hit a new high of 35,000,000 pounds, with exports of 3,000,000, and an extra surplus of which to dispose. The association is seeking an advertising grant from the Dominion government to increase export sales. British Columbia consumes more than the local production, and so is not affected by the export problem.

Detailed production figures, with all districts showing gains of 10 or more per cent, are as follows:

	1938	1937
Vancouver Island & Gulf Islands	187,695	122,150
Greater Vancouver	116,800	101,725
Lower Fraser Valley	418,775	385,225
Upper Fraser and Chilliwack	203,550	193,225
Okanagan, Shuswap, Thompson	553,800	476,500
Kootenay	131,800	125,400
Central Interior	21,700	23,250
	1,584,120	1,427,475
F. H. Fullerton, British Columbia.		

ABJ

## Try These On Your Bakers



Quantity recipes for use in your local bakeries should help you move honey. The baker needs a dependable recipe, however, in good shape for him to use. These recipes are reprinted from the bakers' magazines and you can give them to your baker without hesitation.

These two are from **American Independent Baker** (New York) from the May 28 issue, 1937.

### Nut Honey Cakes

If you have a fine Jewish trade, you will find these nut honey cakes will especially appeal to them as well as to many of your other customers. They were featured in our columns in 1931 in an article on "Fine Jewish Products Every Baker Can Sell" which was published through the

courtesy of the Bakecrofters of America.

Nut honey cakes are made as follows:

Beat well together:

4 pounds of brown sugar

4 pounds of honey

1 pint of egg yolks.

Sift together and add to the above:

3 pounds of flour

1½ ounces of cinnamon

½ ounce of cloves

½ ounce of nutmeg

½ ounce of allspice

¾ ounce of soda

Then add:

1½ pounds of chopped raisins

4 ounces of finely cut citron

4 ounces of finely cut orange rind

2 pounds of blanched almonds

1 pint of egg whites, beaten stiff

and add last

Pour in well buttered tins and bake in slow oven.

\* \* \*

### French Honey Cake

We give you below the recipe for French honey cake. This is one of the Bakecroft products which we have had the pleasure of presenting to our readers, and is an extra fine product.

The cake itself is made as follows:

3¼ pounds of butter

5½ pounds of brown sugar (sifted)

1 ounce of soda

1 ounce of salt

Vanilla flavor

1 pound of honey

1¼ quarts of eggs

7 pounds of high grade cake flour

2 ounces of baking powder

1¼ quarts of milk

Cream the butter, add the brown sugar gradually, then the honey and after that the eggs gradually. Fold in the flour alternately with the milk, holding back a half pint of the milk and adding it after all of the flour is in. Allow the mix to run until it is quite smooth. Scale off in loaf cake pans and bake in a moderate oven. Top with a French Honey Cream.

\* \* \*

### French Honey Cream

1 pint of milk

1 pound of butter

1 pound of honey

Place the butter and honey in a vessel over the fire and allow to melt together. Then stir in the pint of milk. Set aside and allow to cool.

In the meantime, place in the cake machine:

4 pounds of butter

Cream, and beat into the butter

1 pint of eggs

Now add:

5½ pounds of XXXX sugar

Then fold in the cooled honey emulsion and beat up until smooth. Add vanilla to suit.

# The Editor's Answers

## Buying Package Bees

I am a beginner in beekeeping, having started last summer. Next spring I am going to get one of the large 11-frame hives with crimp-wired foundation. I am going to buy golden Italian bees. Where is the best place to buy the bees? Is it best to buy the package with the queen or to buy the tested queen some place else? How many pounds of bees should I buy for the large hive?

INDIANA.

Answer.—In regard to the purchase of package bees, we would suggest that the standard 3-band or leather colored Italian bees will give you better satisfaction than the golden strain. This has been our experience over many years, and while the darker colored bees are not as beautiful as the lighter colored bees, we think that they are better honey gatherers as a rule and usually more vigorous. The light colored or golden Italian bees can be secured, however, if you feel that that is the kind that you want.

In purchasing bees, it is best to have the queen come right with the package. If you order the queen sent separately from another breeder or in a separate package, they may not arrive at the same time and it is imperative that when the package of bees is installed, the queen be put in the hive at the same time.

ABJ

## Cellar Wintering

I have fifty colonies of bees in hives one and one-half and two stories high. Last winter I put them in a part of the chicken house and packed them in straw. I had only twenty-five but they came through so well that I took three to four frames of brood and bees, gave them a new queen this spring and made a new hive. Out of seventeen introductions I had two failures.

I have a house in which I keep my extra supplies. It has a cellar about 20x20x7 with a dirt floor. About three feet of the wall extends above ground. The wall is of cement blocks above ground and cement wall about eight inches thick below ground. The chimney extends to the floor. Would it do for ventilation?

Would it be all right to put building paper around the outside of this cellar and winter the bees in it? There is no one living in the house. I have a thick evergreen grove in which I could winter the bees by packing them. Which way would you advise? Do you think the top entrance is the best when packing outside? By what date should they be in the cellar or packed?

What way do you think the best to let bees clean extracted supers?

IOWA.

Answer.—The two main things to bear in mind when wintering bees is that the cellars have a constant temperature at which the bees will remain quiet all the time, ordinarily, this runs about 45 to 51 degrees. If you have the bees warming up at certain times, they will get uneasy and you may have considerable losses. In the second place, you want a minimum of moisture and it appears that your chimney running from the basement to outside might be adequate.

I believe if you thoroughly lined the walls above the ground and then perhaps covered first the floor with a few inches of leaves or some other material which will make for warmth, you might not have difficulty, although it would likely be necessary for you to adjust the entrance to the cellar in

order to maintain the constant temperature.

The bees should winter out of doors satisfactorily behind the evergreen grove that you have mentioned. We would recommend the top entrances for these bees and probably packing around them with a super full of planer's shavings or forest leaves above the brood nest.

If you are going to cellar winter the bees, of course, the advice always is to put them away after the last cleansing flight in the fall. That has to be guessed at but usually along about Thanksgiving time there is a warm spell which can be taken advantage of.

Unless you are sure that there is no disease present, we suggest that you stack supers up on a few colonies and let the bees go through them while the weather is yet warm. You can give a colony a half dozen or more supers over the brood nest late in the evening and by the next morning they should have them all cleaned up. You can then repeat the process with another batch of supers.

ABJ

## Small Quantities of Wax

I would like very much to have something in print about how to extract honey and handle wax when one doesn't have enough to justify purchasing regular equipment. I started with one colony of bees and now have three, but I think I struggle with these three colonies more than an experienced fellow would with a hundred colonies.

COLORADO.

Answer.—Your problem is not an uncommon one. The old recommendation used to be to start out with comb honey or chunk honey production. This is probably the cheapest and most adaptable way.

However, the production of either comb honey or chunk comb offers some drawback in that the beginning beekeeper has enough problems without including those that come from comb building, such as swarm control, finishing of sections, etc.

We would, therefore, recommend extracted honey. In a small system of just a few hives, we can see but two alternatives for handling.

Your second possibility is to contact someone in your locality who has equipment and get him to do your extracting on a custom basis. I believe this is becoming more prevalent as time goes on and as the number of beekeepers increases.

As to your wax handling, this is at best a difficult problem with a small number of colonies because the equipment necessary for proper wax melting, especially from old combs, is not warranted. The best way out would be to make yourself a solar wax extractor and get as much of the wax as possible out of the combs and cappings and then accumulate the rest as slumgum to be sent in to some regular handler of such material.

ABJ

## Small Outfit

My hives are Dadant 11-frame with shallow supers which produced about 1600 pounds of extracted honey. My extractor is a 4-frame Woodman. I use a steam knife. I do all my work alone and it seems to take

too much time, the uncapping, extracting, and, especially, the straining. How would you advise me to handle honey in this quantity?

WISCONSIN.

Answer.—There is one thing which you might do and that is to get a power attachment for your 4-frame extractor which would allow it to run while you were uncapping another extractor full of combs.

ABJ

## Balling the Queen

On arriving at my outyard June 22, found a swarm of bees clustered on a tree near-by. When putting them into a hive I noticed a ball of bees and, on poking them apart, found a queen in the center of the ball. Thinking they were blaming her for the confusion incident to hiving, I removed her and, when all was quiet, ran her into the hive entrance, only to find her dead in front of the hive a little later. I was unable to find another queen in the hive and it proved to be queenless. Why did they kill her when they had no way of producing another queen?

MICHIGAN.

Answer.—Such an occurrence is not unusual with bees, although it is not exactly common. Occasionally when bees are disturbed, they will ball their queen although she is the only one they have. This happens usually to a queen which has not been introduced to the colony for any length of time or perhaps to a new queen which has been freshly mated or is still virgin.

Perhaps if you had simply hived the swarm without a further disturbance, they might have accepted her. The so-called supersEDURE which we are hearing a great deal of now probably can partly be traced to similar conditions.

ABJ

## Cyanogas Fumigation

I expect to treat my combs with cyanide or Cyanogas powder, for the prevention of moth damage but it just occurred to me that there might be a slight possibility that the wet combs might absorb enough of the poison to hurt the bees when the combs are put back on the hives next spring.

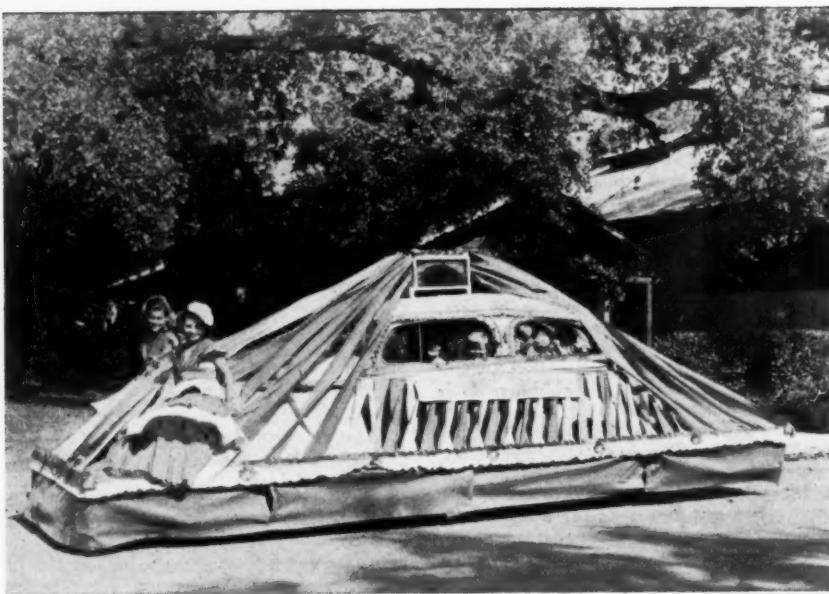
I intend to stack the supers up wet just as they come from the extractor, about nine or ten high and put about a tablespoonful of the powdered Cyanogas under each stack, after putting an inner cover on top of the stack. These are the regular Hoffman frames, ten to a super. Do you think this is enough dope for each stack, or is it too much and do you know if one treatment will be enough to prevent moth damage until freezing weather. Of course I know that cyanide is very dangerous but I will be working in a well ventilated room with the windows open on both sides.

Using the above amount of Cyanogas, how long should it be necessary to leave the dope under the stacks of supers to kill all the eggs and larvae?

IOWA.

Answer.—The honey will not absorb enough Cyanogas fumes to hurt the bees if the supers are aired before they are used again. If they are stored over winter but were gassed the previous fall, there will not be any further necessity to air them. They will have freed themselves of the gas by that time. Your dosage is sufficient. One treatment is enough if freezing weather comes within a month afterward. I would suggest that if you work in a room and only have a small amount of fumigation to do, you will be all right with windows wide open, but if you have to stay in the room with the gas more than about five minutes, you better get yourself an army gas mask. We use two of them in our honey house. The gas will kill anything present in the supers, eggs, larvae, or moths, almost immediately. However, remember moth can reinfect your stack by laying in cracks from the outside.

## Colusa Float



Thos. Burleson, of Colusa, California, sends this picture of the Colusa County Beekeepers' Club float in the Harvest Festival at Colusa, California, October 17th. In

the background can be seen the warehouse and home of Mr. Burleson.

This is a fine job. We wonder how many other communities made as much of the Festival period as this.

ABJ

## The Sociable Bumblebee

By J. D. Taylor,

Oklahoma.

**I**N the article "Social Life of the Bumblebee," by M. D. Farrar, I was interested in the description of the way the bumblebees live. I am not a beekeeper but a beekeeper's father. My son, L. D. Taylor, is an extensive Iowa beekeeper.

As a small boy he was interested in all kinds of insects and could tell a great deal about many varieties. When he was about twelve, we were living where there was an abundance of large bumblebees marked with colored rings. My boy caught one of these and found that it had no stinger. He noticed that those that had stingers had different markings from those that did not.

About half of those he saw could not sting. He would gather handfuls of these and had a good time turning them loose where people were assembled, watching them fall over each other to get away. The roar of the bees could be heard further than one would think and sounded terrifying to the uninitiated.

I wonder if Mr. Farrar is correct when he says that male bumblebees

do nothing? These stingless bumblebees, which I assume were males, always seemed busy working, just like the ones that did have stingers.

**R**eply by Prof. M. D. Farrar, Research Entomologist, State Natural History Survey Division, Urbana, Illinois:

"I believe I am correct in saying that the male bumblebees do not contribute anything to the welfare of the bumblebee colony. It is true they may be collected on flowers, particularly on cool mornings when they are more or less inactive. They undoubtedly take considerable nectar for themselves and occasionally become covered with pollen which may be dusted off as they return to their nest.

"They are not equipped, however, to collect pollen and do not bring nectar back into the colony. The nectar they do collect is used by themselves. Your son was undoubtedly able to collect both the stinging workers and the stingless males, the latter entirely harmless and obtained without difficulty."

## Do Labels Indicate Anything?

By L. H. Sweetser,

California.

**I**N a large California grocery I went to the shelves for honey. I know nothing about the relative standing of the three producers whose brands were on the shelves. So I had to go by price and appearance. The prices were not far apart, and I had learned that high price is not always a measure of the best quality, anyway.

Another marketer stood there, and we debated about the appearance. We turned the containers down and watched the bubble's upward journey, to judge of body. We held the jars up to the light, for evidence of uncleanliness.

Not one of the containers had an attractive label. Some of them were applied crooked. Others were cheap in appearance. The one that had the least unattractive label had the original weight figures blotched and daubed with ink and new figures written in. However, the honey seemed to have the best body, and it was clean. We both selected this.

I had heard that California star thistle honey was just about tops for delicious flavor. So I took a bottle labeled "Star Thistle." Next morning I set the bottle in warm water, to make the honey spread more readily on my cakes. The label came off. Underneath there was another label. It read "Sage Blossom."

Now, I don't know, and didn't know, whether I was using thistle or sage. I do know, though, that the bottlers who were careless enough to use unattractive labels, blotched over with the weight lettering, and with two different flavors of honey designated on the labels, were careless enough to blotch their operations in their bottling works.

My next purchase was in another grocery where I found a brand of honey with most attractive containers and labels. I was not surprised to find that the honey appeared good bodied, well flavored, clean and apparently true to label.

My surprise was, and is, that all bottlers who serve the public do not take more care with their delicious product, and with the labels and containers which should indicate that proper care is taken at the bottling works.

# Meetings and Events

## Beekeepers Winter Round-up in Florida

Beekeepers from all over the country are being invited to the Beekeepers' Winter Round-up in Florida to be held in Largo, on the west coast of Florida, Tuesday, February 21. The invitation is being extended in time for all those desiring to attend to make preparations.

On the first Tuesday following the closing of the South Florida Fair, at Tampa, the Florida State Beekeepers' Association and Pinellas County Beekeepers have been holding, for the past several years, a joint meeting at the Fair Grounds in Largo.

The beekeepers' exhibits at the South Florida Fair and the meetings held immediately thereafter have grown in size from year to year until at the last meeting in February, 1938, 500 beekeepers from different parts of the country, wintering in the Sunshine State, attended the meeting.

At the suggestion of one of the northern visiting beekeepers at last winter's meeting, the plan was evolved to hold the Beekeepers' Winter Round-up in Florida in conjunction with the meeting of the two Florida associations, in February, 1939.

The committee to formulate plans for the Round-up is composed of R. W. House, Denedin; R. C. Allen, Auburndale; and W. H. Williamson, secretary of the Florida State Beekeepers Association, Auburndale.

This committee is working on a special program of intense interest to beekeepers from all parts of the country, wherein ideas may be presented and exchanged. A number of prominent officials of the industry as well as prominent beekeepers from all over the country will be present and will speak upon problems confronting the beekeepers and will conduct open forums on subjects which vitally interest everyone in the bee industry.

The registration fee of one dollar entitles the registrant to a year's membership in both the Florida State Beekeepers' Association and the Pinellas County Beekeepers' Association, in addition to a good dinner on the day of the meeting in February.

It is expected that the registration for the Winter Round-up will exceed one thousand. Being held, as it is, in the middle of the tourist season on the popular west coast of Florida, the time and place are ideal for the meet-

ing. As soon as registrations are received by the secretary of the state association, a card will be sent which will entitle the holder to a dinner and membership in both associations.

The South Florida Fair, combined with the De Soto Exposition, will open in Tampa, January 31 and close February 18, 1939. The Beekeepers' Winter Round-up in Florida will be held in Largo on the following Tuesday, February 21. All roads leading to the Largo Fair Grounds where the Round-up will take place will be adequately marked.

All beekeepers are asked to make their plans to attend the Round-up and to mail their registration to W. H. Williamson, Auburndale, Florida, at an early date.

W. H. Williamson, Sec'y.  
Florida Beekeepers' Ass'n.

— o —

## North Carolina State Beekeepers February 17

The North Carolina State Beekeepers Association will hold its annual meeting, in the Agriculture Building, at Greensboro, Friday, Feburary 17. This is expected to be one of the most instructive, interesting, and inspiring meetings that the association has ever held; and, of course, visiting beekeepers are more than welcome.

A program is being arranged to cover the whole day, with the necessary variety. Our local beekeeping talent will be used: C. L. Sams, extension apiarist, P. G. Craddock, apriary inspector, and F. B. Meacham, professor of bee culture, as well as several important honey producers, will talk. Out-of-state speakers are also expected to appear on the program.

In addition, there are to be demonstrations and contests, with prizes offered for the best smoker lighter, honey judge, story teller, and the best answers to a set of true-false questions relating to beekeeping.

F. B. Meacham,  
Secretary.

— o —

## Western Washington Bee School February 24

A one day "bee school" for western Washington beekeepers will be held Friday, February 24, in the Civic Auditorium, at Puyallup, under the auspices of the Pierce County Agricultural agent, cooperating with the U. S. Department of Agri-

ture through the State Agricultural College.

Among the subjects to be presented and discussed are: "Some Economic Aspects of the Bee Industry," M. F. Mommsen, secretary of the Western Washington Beekeepers Association; "What We Do Not Know About Bees," by A. M. Richardson, Pierce County Agricultural Agent; "The A. F. B. Situation in Washington," R. E. White, supervisor apiary division of the Department of Agriculture of the state of Washington.

Beekeepers and friends of the industry are cordially invited to attend this school. M. F. Mommsen, Secretary.

— o —

## League Legislative Committee

The following Legislative Committee has been appointed to act for the American Honey Producers League during 1939: James I. Hambleton, chairman, Beltsville, Maryland; W. E. Anderson, state entomologist, Baton Rouge, Louisiana; Clay Lyle, entomologist, A & M College, Mississippi; James E. Starkey, chief apiary inspector, Indianapolis, Indiana; A. G. Ruggles, state entomologist, University Farm, St. Paul, Minnesota. These men will act principally in the formation of a uniform state law governing beekeeping regulations. They hope to have the active cooperation of the committees acting for the Apiary Inspectors of America and the Southern Beekeeping States Federation.

Cooperation and suggestions from beekeepers will be welcomed by the committee, and all communications for the committee's consideration should be addressed to these men. Personal and state association membership dues should be sent to the secretary, Cary W. Hartman, 1001 Bank of America Bldg., Oakland, California.

George W. Bohne,  
President.

— o —

## Texas Annual Meeting, June 23-24

T. W. Burleson, chairman of the arrangements committee of the Texas Beekeepers Association announces the annual meeting of the association will be held June 23 and 24, at Waxahachie. The Chamber of Commerce, women's clubs, and Trinity University will do everything in their power to make this meeting an excellent one. The arrangements for the meeting are already in operation. The honey assembling and packing plant of the Burlesons is one of the best and largest in the South. This will be open to visitors. The meeting will be held in the City Auditorium, located in the city park. In order that this meeting of beekeepers may have an apiary for



motion of honey uses. Roadside signs, placards for trucks, window banners for grocery stores, and a label for the use of members, under strict grading rules, will be used. A program similar to that which has proved successful for the Michigan Apple Institute will be followed.

— o —

#### Consolidated Missouri State Bee-keeping Association

Missouri beekeepers met during Farmers Week, October 26-28, 1938, at the Missouri College of Agriculture and discussed beekeeping problems in the state. The two bee-keeping organizations, The Missouri State Beekeepers' Association and the Missouri Apicultural Society, had consolidated earlier in the year. As the meeting in Columbia was the first meeting since consolidation, there was a good attendance from all parts of the state, and the commercial, as well as the small producer, was well represented. The group voted to begin at once on a vigorous program of building a strong organization in the state. They also indorsed an interest in working toward promotion of beekeeping in the state.

Professor Paddock, Extension Apiarist, from Iowa State College, was guest speaker and gave those attending some inside information on what his experience with Iowa beekeeping conditions had been. The officers of the beekeeping organization, which is to be known as the Consolidated Missouri State Bee-keeping Association, elected at the meeting for the year of 1939 are: President, Leo. R. Bradford, Oregon; vice-presidents, A. W. Gale, Chillicothe, C. A. Groom, 2909 Carson Road, St. Louis, Gus Kramer, Independence, Charles H. Reynolds, Seneca, J. M. Layman, Poplar Bluff, and Doctor O. Grow, Queen City; and George D. Jones, Columbia, secretary-treasurer. The nominating committee was composed of Edgar Stewart, Fairfax, Dr. William C. Wilson, St. Charles, and Clarence Denham, Independence.

— o —

#### Indiana County Meetings

Date	County	City	Time	P. M.
Feb. 13	Boone	Lebanon	1:30	
Feb. 14	Clinton	Frankfort	1:30	
Feb. 15	Carroll	Delphi	1:30	
Feb. 16	Cass	Logansport	1:30	
Feb. 17	Grant	Marion	1:30	
Feb. 18	Madison	Anderson	1:30	
Feb. 20	Shelby	Shelbyville	1:30	
Feb. 21	Decatur	Greensburg	1:30	
Feb. 22	Ripley	Versailles	1:30	
Feb. 23	Jefferson	Madison	1:30 & 7:30	
Feb. 24	Switzerland	Vevay	1:30	
Feb. 25	Ohio-Dearborn	Aurora	1:30	

— o —

Dicks, New British Columbia  
Secretary

W. J. Dicks was elected secretary-treasurer of the British Columbia Honey Producers' Association, Fraser



BEEHIVE JARS  
1/2 lb. to 2 lbs.

## HONEY JARS

Hazel-Atlas presents four complete lines of Honey Jars, all designed specially for honey packers... Crystal clear glass displays the natural beauty of your product... Jars are easily packed and labeled... Available in a complete range of sizes... Write for free samples.

**HAZEL-ATLAS GLASS CO.**  
WHEELING, W. VA.



Orders Solicited For  
**Package Bees and Queens**

Satisfaction Guaranteed.

**SUNKIST BEE CO.**  
BOURG, LOUISIANA

# DON'T BE DECEIVED

BY THINKING YOU ARE GETTING  
SOMETHING "JUST AS GOOD"  
AS OUR

## SPECIAL LOOSE-QUEEN PACKAGE

with Clipped, Laying Queen, shipped among  
her own colony of bees.

### 1939 PRICES

#### **SPECIAL LOOSE-QUEEN PACKAGE**

2-Pound Package . . . . .	\$2.60
3-Pound Package . . . . .	3.30

#### **REGULAR CAGED-QUEEN PACKAGE**

2-Pound Package . . . . .	\$2.45
3-Pound Package . . . . .	3.15

#### Quantity Discounts:

1 to 14 packages	no discount
15 to 100 packages	10%
100 to 1000 packages	15%

Write for our new 1939 Illustrated Booklet, giving  
vivid proof of what others have done with Loose-  
Queen Packages. It's Free!

**THE PUETT CO.**  
**HAHIRA, GEORGIA**

## "Honey Girl" Italian Bees & Queens

Have a mighty good, world-wide, reputation for honey gathering, hardiness, non-swarming and gentleness. You can get them in combless packages, comb packages or nuclei. Write and tell us the kind and size of package or nucleus you want, quantity, and date of shipment desired, and we will make you our best price. Your order large or small will be appreciated and receive our best attention.

Our guarantee: Prompt service, quality, safe delivery (all losses in transit replaced, promptly, prepaid), has stood the test for nineteen years. Certificate of inspection, certifying freedom from disease with each shipment.

**St. Romain's "Honey Girl" Apiaries, Hamburg, La.**

Valley Division, at the annual meeting, November 25, according to information just received from the retiring secretary-treasurer, M. V. Jenks, of New Westminster. Glad to welcome items from you any time, Mr. Dicks.

## William H. Birney

Mrs. W. H. Birney, Las Animas, Colorado, sends us notice of the death of Mr. Birney, 73, long time resident of Las Animas. He was born at Nelson, New York, in 1865, educated at the Cazenovia Seminary and Albany Normal College, married Hester A. Rodgers in 1897. They have three children.

He taught school several years in New York state, and came to Las Animas in 1902, thirty-six years ago.

For a number of years Mr. Birney was one of the four principal honey producers in the county. His first interest in bees was developed on the New York farm when he was fifteen years old when his father gave him the care of fifteen colonies. Later he had several sizable apiaries. In Colorado he shipped honey to eastern markets. So beekeeping loses another one of its good members.

## H. W. Funk

H. W. Funk, of Normal, Illinois, lifetime beekeeper and manager of the Lilly Orchard Fruit Company, at Lilly, died after an illness of one week. He was born January 18, 1858, on a farm in Dry Grove Township, and at an early age kept bees at the home farm, and later, as they increased, he kept many colonies at Normal, Illinois, where, with an assistant, he produced and supplied honey for years to the trade there and in Bloomington.

When he became manager of the Lilly Orchard Fruit Company, he moved most of his bees to the orchard, where he also produced and sold honey as well as fruit. Later, the bees were taken over by his assistant and moved to Arkansas. He still has some bees at Lilly. He was active in all bee associations and had a thorough knowledge of the business. In this vicinity he was often called "Honey Funk." He was known as a horticulturist and was active for many years in the Illinois State Horticultural Society in which he held a life membership. He was president of the beekeepers' association for many years and was the first deputy inspector from McLean County. Many beekeepers there are indebted to him for his guidance and help in their beekeeping life.

Ed Heldt,  
Illinois.

193

De  
Pro

On  
occur  
Prov  
that  
reade  
and v  
joyed  
fifty-s

Ne

New  
is the  
Iowa  
is a c  
was  
keepin  
Iowa  
He su  
head  
three  
This  
as pre  
he hei  
prior

My  
Mrs

[A  
whose  
experi  
the De  
not co  
grove  
stead  
permit  
enter  
force  
vent a

I ha  
three  
become  
Snelgr  
cluder  
strip o  
The co  
queen  
before  
when t  
or the  
Someti  
with th

The  
Snelgr  
venting  
colonie  
honeyf  
that m  
ready t  
was lay  
Demar  
the Snel  
cluder.

## Death of Don Pedro Provansal

On January 1, in Uruapan, Mexico, occurred the death of Don Pedro Provansal, a prominent beekeeper of that country. He has long been a reader of American Bee Journal, and we of this office have greatly enjoyed his frequent letters. He was fifty-seven years of age.

ABJ

## New Iowa President

Newman I. Lyle, of Sheldon, Iowa, is the newly elected president of the Iowa Beekeepers' Association. Lyle is a commercial honey producer who was formerly a lecturer on beekeeping in the Extension Service of Iowa State College of Agriculture. He succeeds John Johnson who has headed the organization for the past three years.

This is not Lyle's first experience as president of the Iowa beemen since he held that office for several years prior to Johnson's election.

ABJ

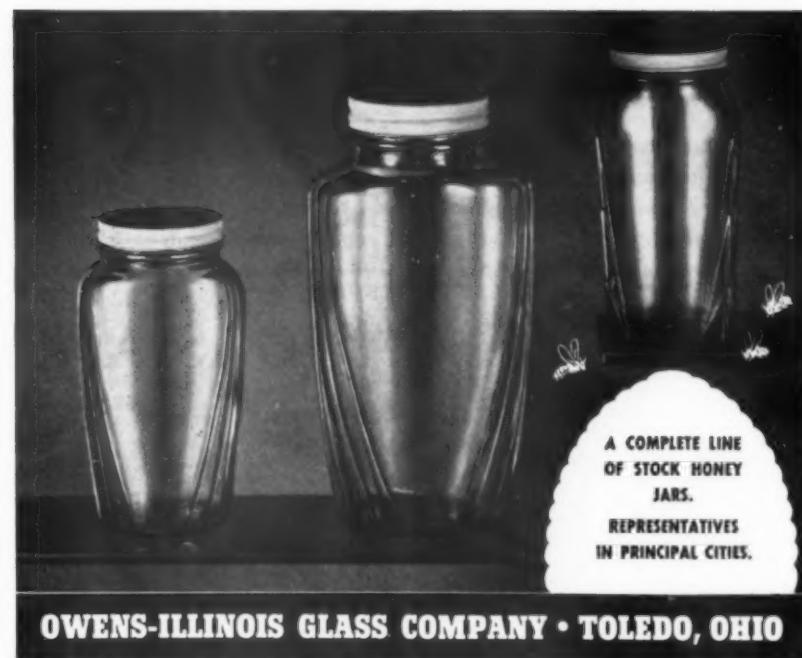
## My Suggestion, Mrs. Dresbach

[A suggestion to Sylvia Dresbach, whose article about her beekeeping experience in Germany appeared in the December issue.—Ed.] I would not cover the opening in the Snelgrove board with excluder zinc instead of wire screen. To do so would permit the bees switched below to enter the body above. The field force would not be removed to prevent a swarm issuing from above.

I have used the Snelgrove boards three years. After the new queen becomes established, I replace the Snelgrove board with a queen excluder having a three-eighths inch strip on all sides except the front. The colony is then run as a two-queen colony until about four weeks before the close of the fall honeyflow when the brood chambers are united or the brood set off on a new stand. Sometimes I supersede the old queen with the new one as soon as the new one has sealed brood.

The first two seasons I found the Snelgrove board adequate in preventing swarming, but this year my colonies were so strong and the honeyflow so heavy and intermittent that many colonies below would be ready to swarm before the new queen was laying above. In that case I Demareed, placing the brood beneath the Snelgrove board and a queen excluder.

Ivan Whiting,  
Illinois.



Your Display or Classified Ad in A-B-J Brings Results That Please

## THREE REASONS!

Why You Should Buy DAVIS BROS.

### PACKAGE BEES AND QUEENS

ITALIAN AND CAUCASIAN

Low first cost. Write for price list.

High in honey production. Reared in our own interests as honey producers in three Western states.

Responsible and careful shippers. Best method of packaging insures maximum of live bees on arrival. NOT ONE CLAIM for package replacement in last three years.

**DAVIS BROS., COURTLAND, CALIFORNIA**

## For Prompt Efficient Service Particular People Choose Pettit's Package Bees and Queens

Many years a beekeeper, inspector and instructor in Ontario and fourteen years a shipper in Georgia, we offer you the benefit of thoughtful experience.

We have again increased our colonies and they are in splendid condition to give you plenty of vigorous young bees. They are three-banded Italians, and the queens will be of the best stock, productive and gentle, reared by our queen breeder who is one of the best and most careful in the country.

Our new method of shipping greatly reduces shipping losses and supersEDURE. Many kind letters from satisfied customers testify to this.

Write for our booklet which tells all about it.

PRICES

With Queens	
Two pound	\$2.45 each
Three pound	3.15 each
Four pound	3.85 each
Five pound	4.55 each

Queens 75c each

Without Queens	
\$1.70	each
2.40	each
3.10	each
3.80	each

Liberal quantity discounts. Safe arrival and satisfaction guaranteed.

**MORLEY PETTIT, Albany, Ga., U. S. A.**

## We Offer You--

Good strains of honey producing bees.  
 Good queens, produced by careful men of long experience.  
 Packages well filled with young bees. No drones.  
 Service that is the best. Plenty of experienced dependable help.  
 Express that is fast over direct lines to the North, East or West.

## ITALIANS-CAUCASIANS

2-lb. package with queen	\$2.45 each
3-lb. package with queen	3.15 each
Queens, select laying	.75 each

For prices on lots of 50 or more write, also for prices on nuclei.

## WEAVER APIARIES NAVASOTA, TEXAS

## BE SURE OF THE BREEDING

Back of the bees you buy. Today our bees are better than ever because of the splendid breeding back of them—and breeding is the big half of beekeeping profit and success.

2-lb. package with queen	\$2.45
3-lb. package with queen	3.15
4-lb. package with queen	3.85
5-lb. package with queen	4.55
Queens, young laying	.75

15% dealers' discount

Don't wait—Place your order now. No deposit required

CITRONELLE BEE CO., Citronelle, Ala.

## Read What Others Are Doing

### 2 Years \$1.50

1 YEAR, \$1.00; 3 YEARS, \$2.00  
(U. S. A. and Canada)

FOREIGN 25c EXTRA FOR POSTAGE  
PER YEAR

#### SPECIAL

GLEANINGS IN BEE CULTURE  
For 6 Months

STARTING RIGHT WITH BEES  
96 Page Book, Illustrated  
BOTH FOR 75 CENTS

The A. I. Root Co., Medina, O.

Gleanings in Bee Culture—1 Year      \$1.60  
American Bee Journal—1 Year      In U. S. A.



## CAUCASIAN PACKAGE BEES AND QUEENS

Send for descriptive catalog and how to install package bees. With 15 years' continuous breeding of Caucasian bees only, coupled with ample facilities and a willingness on our part to serve, we solicit your business believing that we can please you. Booking orders without deposit. Prices: 2-lb. pkg. with queen \$2.45; 3-lb. pkg. with queen \$3.15; Untested queen .75c.

**BOLLING BEE CO.**  
BOLLING ALABAMA

## PACKAGE BEES & QUEENS

Bred for high production. They will be ready when you want them.

**R. D. JENKINS**  
SAN BENITO, TEXAS

## PLENTY OF BEES

And hustling home-reared queens. We guarantee to please you on weight, quality and service. Let us know your needs.

CANEY VALLEY APIARIES  
Bay City, Texas

## PURE ITALIAN BEES & QUEENS

WRITE FOR CIRCULAR.

**LUCEDALE APIARIES**  
LUCEDALE, MISS.

## Flowers' Packages & Queens

Flowers' improved Italian bees will gather you a larger crop of honey, our circular tells why.

FLOWERS BEE COMPANY  
Jesup, Georgia

## HELLO FOLKS!

Here we are again,  
**STEVENSON'S LINE BRED GOLDENS**

If you try us you will always buy us because we are the best honey producers by test.

All the many visitors from Northern U. S. A. and Canada say, "We never saw such gentle bees, you couldn't handle ours that way." We are a large, gentle, yellow bee and not a bit nervous. This makes the handling of us so pleasant. We are especially good if you have a town location.

The queens are large, uniform, and very prolific; not subject to supersedeure.

2-lb. pkg. with queen \$2.45; 3-lb. \$3.15; additional bees 70c per lb. Queens 75c each.

Write for descriptive circular.

**STEVENSONS APIARIES, Westwego, La.**

## ITALIAN BEES AND QUEENS

Booking orders for package Bees and Queens at code prices for April and May delivery. Specializing in Queens. None better. Satisfaction guaranteed.

**C. O. GILBERT**  
Winchester, Miss.

Natu  
were i  
In New  
6 cents  
Georgi  
about 5  
and the  
In Tex  
It wa  
4 cents  
Reports

WA

Milwauk

# Crop and Market Report

Compiled by M. G. Dadant

For our Crop and Market February page, we asked reporters to answer the following questions:

1. How is honey selling retail?
2. How is jobbing and carlot demand?
3. Will all honey move in your section by next crop?
4. What is being offered for carlot white f. o. b. producer's station?
5. How are bees wintering?

#### Honey Selling Retail

In practically all sections of the country, the reports are that honey is selling only fairly well and in many instances is selling slowly. The Southeast, however, and most of the South seem to be an exception in that honey there is selling better than in other sections. The New England states also report fairly good sales and there are scattering reports throughout the country of good to fair sales. California surprisingly reports very good sales of honey. In Canada, also, sales are picking up rapidly since the holidays.

#### Jobbing Sales

Practically everyone is united in stating that the jobbing sales are extremely slow. Apparently most packers and many other buyers loaded themselves well during the slump in prices in late fall and are not yet ready for additional supplies. They are, therefore, passive in their demand for honey.

#### Will All Honey Move?

With the exception of New York, there was almost unanimity of opinion in the eastern, southeastern and southern states that all the honey produced would move before the new crop season. As one works farther west, however, the possibilities of moving all the honey produced locally became more doubtful. This was particularly true in Indiana and Ohio with conditions slightly better in Illinois and much better in Missouri, Arkansas, and Iowa, doubtful in Michigan, Wisconsin, Minnesota, and North Dakota. In the plains states, however, the possibilities were that all honey would move and then the doubt became more evident in the intermountain territory. However, even in those sections, particularly Montana, there were a number of reporters who stated that the honey would move before another crop came on.

It was surprising that most California reporters were united in stating they thought all honey would move or at least almost all of it before the new crop comes. The white honey, particularly, is moving off rapidly and leaving only the amber grades in California. An export market and shipment to New York has helped wonderfully with the California crop.

#### Offers in Carlots

Naturally, all of the South and very little of the East were interested in carlot offers or did they get them? In New York there was reported one offer of a carload at 6 cents and one offer at 5 cents f. o. b. shipping station. Georgia and Florida reported prices which would range about 5 to 6½ cents for honey, f. o. b. producer's station, and the same reports from Mississippi and Alabama. In Texas, suggested prices were from 4½ to 5 cents.

It was reported in Ohio that one packer was offering 4 cents, f. o. b. his delivery point, with very few takers. Reports in Illinois, Michigan, and the territory around

Chicago indicated that a delivered price of 5 cents to the buyer would probably be accepted by the buyer with some reservations, as some sales had been made even at 4½ cents delivered. The bulk of offers seems to indicate approximately 5 cents f. o. b. shipping point for the producer.

Similarly, in the northern plains and intermountain states, suggested prices ran from 4½ to 5½ cents f. o. b. shipping station but with very few buyers and the producers inclined to hold for at least a 5 cent price. Undoubtedly considerable honey could be bought at 5 cents f. o. b. producer's station throughout the country. This applies as well to Utah, Wyoming, and even to California where sage honey is getting somewhat scarce and probably would have to be priced at 5½ to 6 cents. Good orange honey also is demanding 5 cents or better, although inferior grades are selling at less than this and amber grades ranging all the way from 3 cents up.

The honey is moving fairly satisfactorily in the eastern Canadian provinces, and Manitoba reports honey moving out at 6 cents per pound in 5-gallon and 10-pound pails, f. o. b. producer's shipping point. The Saskatchewan market seems to be a little better with prices ranging from 6 to 7 cents with considerable export. Ontario seems to have more honey than the western provinces and movement is just a little easier.

#### Condition of Bees

The bees throughout the country seem to be wintering well. With a fairly good crop of honey, there was a tendency to crowd the bees in the brood chambers and top stories that were left on with a good grade of honey. The bees, therefore, went into winter in fairly satisfactory fashion although perhaps in some instances with not too young a cluster.

The weather has been unusually warm and this has tended to cause the bees to deplete stores and, in some instances to start brood rearing. This may cut down on the amount of stores left for the balance of winter and beekeepers may need to be on the lookout for starving colonies when spring opens. Some sections of breeding areas are complaining that the bees have been induced to breed by warmer weather and they are fearing a setback when a cold snap comes later on.

In Florida, Louisiana, and southern Texas sections, the bees are already gathering pollen and beekeepers in these sections figure the winter is over.

A few areas report conditions dry. This applies to some sections in Florida and other parts of the South and to some parts of the plains states, including Kansas and Nebraska. However, in most instances the moisture seems to be about normal.

#### Summary

Where the local sales are satisfactory, many beekeepers, because they did not have the honey that was anticipated, are unable to supply their markets. It is in the heavy producing sections, naturally, that honey is most abundant. We do not believe there is as much honey left in central western areas as some parties would seem to suggest.

It is true, however, that intermountain territories are extremely well supplied with honey yet, which they apparently intend to hold unless at least a price of 5 cents per pound is available.

## WANTED — HONEY

Jewett & Sherman Co.  
Milwaukee, Cleveland, Kansas City, Brooklyn

## Renew Your Subscription

Write for Our Special Club Offers  
AMERICAN BEE JOURNAL

## Iverson Honey Company (Not Inc.)

Successors to  
Edwin H. Guertin, 201 N. Wells St., Chicago  
Extracted Honey bought and sold  
Reference: First National Bank of Chicago

# The = BEEKEEPER'S EXCHANGE

Copy for this department must reach us not later than the fifteenth of each month preceding date of issue. If intended for classified department, it should be so stated when advertisement is sent.

Rates of advertising in this classified department are seven cents per word, including name and address. Minimum ad, ten words.

As a measure of precaution to our readers, we require reference of all new advertisers. To save time, please send the name of your bank and other references with your copy.

Advertisers offering used equipment or bees on combs must guarantee them free from disease, or state exact condition, or furnish certificate of inspection from authorized inspector. Conditions should be stated to insure that buyer is fully informed.

## BEES AND QUEENS

**PACKAGE BEES, QUEENS, ITALIANS.** Highest quality. Booking now for early spring delivery. J. E. Wing, Cottonwood, Calif.

**PACKAGES WITH QUEEN INTRODUCED** prevent supersEDURE and loss of queens. Free folder tells their advantages over others and how we do it. A. O. Smith, Mount Vernon, Indiana.

**CARNIOLANS AND CAUCASIANS.** April and May delivery. Untested queens 75¢ each. 2-lb. pkg. untested queen \$2.45; 3-lb. pkg. untested queen \$3.15. 15% discount to dealers. Safe arrival. Prompt shipment. Tillery Brothers, Greenville, Ala., Rt. 4, Box 132.

**MILLER BROTHERS,** Three Rivers, Texas—Only exclusive Caucasian breeders west of the Mississippi. Packages with queens introduced. Write for circulars.

**WE OFFER PACKAGE BEES** with choice Italian Queens. Prompt shipment. Write for prices. Rapides Apiaries, Winnfield, Louisiana.

**PACKAGE BEES, YOUNG WORKERS ONLY.** 1700 hives full will be UNEMPLOYED. No honeyflow for months. Don't let them swarm and fly away. IT WILL PAY YOU to drop us a card. Robert N. Moore, Rt. 1, Box 128, Tempe, Arizona.

**GOLDEN QUEENS**—excellent quality, carefully reared. Will please the honey producer. 75¢ each. Satisfaction guaranteed. O. E. Brown, Rt. 1, Asheboro, N. C.

**CAUCASIAN BEES AND QUEENS,** extra gentle, prolific, hardy and winter in the North like their own country. Long-tongued, dependable workers. Prices—2-pound package bees with queen \$2.45; 3-pound package bees with queen \$3.15. 15% discount to dealers. P. B. Skinner Bee Co., Greenville, Ala.

**FOR STRONGER COLONIES,** Bigger Honey Crops and Gentler Bees try our prolific, well-bred three banded Italians. Used for years by leading beekeepers of the U. S. and Canada. They will satisfy you. We send all new, light, clean and convenient shipping cages; more than full weight of healthy young bees; select young laying queens of our own production; few or no drones, and no disease. 2-lb. packages with queen \$2.45 each; 3-lb. packages with queen \$3.15 each. Express or mail shipment, f. o. b. here. Select young laying queens 75¢ each postpaid. Our shipping season opens April 10th. Capacity 100 packages and queens daily. Order early and have your shipping date reserved. H. C. Short, Fitzpatrick, Ala.

**ITALIAN QUEENS,** Package Bees, Nuclei. Take honey-wax as payment. Homer W. Richard, 1411 Champnolle, El Dorado, Ark.

**3-BANDED ITALIAN** Package Bees and Queens, April 1939 delivery. Mansford Plantation, Tallulah, La.

**PACKAGE BEES USERS ATTENTION:** Albert Koehnen's new plant is conveniently located one mile west of Live Oak with bees enough to furnish bulk or package bees by the truck loads, large or small; bring part of help. For information address Albert Koehnen, Rt. 2, Live Oak, California.

**FOR A GOOD HONEY CROP** try our Three-banded Italians. Alamance Bee Company, Graham, N. C.

## HONEY FOR SALE

**HONEY FOR SALE**—We buy and sell all kinds, carloads and less. The John G. Paton Company Inc. 630 Fifth Avenue, New York, N. Y.

**FOR SALE**—Buckwheat honey, 60 lbs. \$3.00. Edw. Hogan, 210 Gibson St., Canandaigua, N. Y.

**WHITE CLOVER** in 60's, 7c; light amber, 5½c. Liquefied ½c more. F. J. Smith, Castalia, Ohio.

**MICHIGAN'S FINEST WHITE CLOVER** honey 5½c. Choice buckwheat 4½c. New cans. No disease. You will be pleased. John McColl, Tecumseh, Michigan.

**SUPERB CLOVER HONEY**, extracted. Priced to sell. C. J. Baldridge, Romulus, New York.

**FOR SALE**—Clover honey. Ask for prices and sample. H. E. Nichols, Owassa, Iowa.

**WHITE EXTRACTED HONEY** in sixties, 7c per lb. Burghardt Honey Farms, Grand Island, Nebr.

**CHOICE BASSWOOD HONEY**, 6c per pound. New cans and cases. Geiser Bros., Dalton, New York.

**BEST CLOVER** in new 60's, 7c; liquefied, 5½c. E. S. Miller, Valparaiso, Indiana.

**WHITE CLOVER COMB** and extracted honey. Earl Frank, Genoa, Illinois.

**FINEST QUALITY** white clover honey. New 60's. Orval Dilley, Grand Ledge, Mich.

**EXTRACTED AND COMB HONEY.** Also 40 lbs. medium brood foundation not wired; one Lewis 2 frame extractor; 75 standard 8 frame beehives, with supers and queen excluders. Chester Keister, Clarno, Wisconsin.

**CLOVER HONEY** 7c lb; light amber 6c. F. O. B. IONIA, N. Y. Scribner Hill Apiaries.

**CLOSE OUT PRICES 1938 CROP.** White clover 6c; amber 5c; buckwheat 4½c. A. J. Wilson, Hammond, N. Y.

**FOR SALE**—A carload of choice Montana alfalfa and sweet clover honey in 60's. Argus M. Camp, Camas, Montana.

**WHOLESALE WHITE COMB HONEY.** Reduced price. Extracted all grades. N. B. Querin, Bellevue, Ohio.

**WHITE CLOVER**, also light amber honey. Samples free. Henry Stewart, Prophets-town, Illinois.

**CLOVER COMB** also extracted in 60's. C. Holm, Genoa, Illinois.

**COMB NO. 1**, to fancy weights, clover, cellophane, \$8 per case of 24 sections. Well ripened clover extracted in 60's 7c; ton lots 6½c. Honey taken from our door, 5% discount. H. G. Quirin, Bellevue, Ohio.

**FANCY CLOVER HONEY** in new 60-lb. cans. Send for sample and price. A. A. French & Son, Theresa, N. Y.

**COMPLETE LINE** comb and bottled honey. Pure clover. Also packed in 5's and 60's. Central Ohio Apiaries, Inc., Millersport, Ohio.

**WHITE CLOVER HONEY** in 60's, 6½c. Harold Bour, Tiffin, Ohio.

**REDUCED PRICES** to close out, excellent quality clover comb and extracted honey; also buckwheat and amber. C. B. Howard, Geneva, N. Y.

**CHOICE NEW CLOVER HONEY** in 60's and in 5 and 10 lb. pails. R. C. Bish, successor to Moore Apiaries, Tiffin, Ohio.

**NEW CROP CLOVER** in new sixties. Fine quality. Ton lots. Sample, 10c. Write for prices. Meyer Toom, Knoxville, Iowa, R. D. 4.

**700 CASES CLOVER COMB**; also extracted. M. N. Dillon, Adrian, Michigan.

**CHOICE MICHIGAN CLOVER HONEY.** New 60's. David Running, Fillion, Michigan.

**FOR SALE**—Fancy Iowa white clover extracted honey. Kalona Honey Co., Kalona, Iowa.

**ORANGE, PALMETTO AND MANGROVE HONEY** in new sixties. Peter W. Sowinski, Fort Pierce, Florida.

**WE BUY AND SELL ALL KINDS COMB AND EXTRACTED, CARLOADS AND LESS.** H. BLITZ, P. O. BOX 3452, PHILADELPHIA, PA.

**FOR SALE**—Northern white extracted and comb honey. M. W. Cousineau, Moorhead, Minn.

**HONEY FOR SALE**—All kinds, any quantity. H. & S. Honey and Wax Company, Inc., 265-267 Greenwich Street, New York.

**HONEY PACKERS**—Write us for prices on carload lots of California and Western Honey. We stock all varieties. HAMILTON & COMPANY, 1360 Produce Street, Los Angeles, California.

**FOR SALE**—Fancy, well ripened, white sweet clover honey in 60-lb. cans. Extra good quality. Dadant & Sons, Hamilton, Ill.

**FOR SALE**—Honey by the carload. Imperial Valley Beekeepers Association, 847 Heber Avenue, Calexico, California.

**HOWDY'S HONEY**—Fine quality white clover, also buckwheat and light amber mixed, extracted in new sixties. White clover Honey Hunks. Howard Potter, Ithaca, Mich.

**FOR SALE**—Fine clover honey, also fall flowers amber honey in 60 pound cans. Price and sample for the asking. Tons of each kind. Let us serve you. W. S. Earls, New Canton, Illinois.

**HONEY FOR SALE**—Any quantity, all varieties. B-Z-B Honey Company, Alhambra, California.

## HONEY AND BEESWAX WANTED

**CASH PAID FOR CARLOADS AND LESS THAN CARLOADS OF EXTRACTED HONEY.** Send sample and best price. C. W. Aepple Company, Oconomowoc, Wisconsin.

**ALL GRADES** extracted honey wanted. Bee supplies and honey containers for sale. Prairie View Apiaries, 12213 12th Street, Detroit, Michigan.

**WANTED**—Carlots honey; also beeswax, any quantity. Mail samples, state quantity and price. Bryant & Cookinham, Inc., Los Angeles, California.

**WANTED**—White and Amber Extracted Honey, any quantity; also beeswax. Write THE FRED W. MUTH CO., Pearl and Walnut Sts., Cincinnati, Ohio.

## FOR SALE

**FOR SALE**—We accumulate bee supplies at our five warehouses slightly shopworn or fully serviceable but discontinued for lack of sale. Write for complete bargain list. G. B. Lewis Company, Watertown, Wisconsin.

**100 COLONIES OR CARLOAD BEES**, with or without equipment. No disease. Clyde Cobb, Belleville, Ark.

**FIFTY COLONIES**, guaranteed free of disease, first class equipment, cheap. Homer Hallman, Hartsville, Tenn.

**FOR SALE**—Honey business, 100 hives of bees. Fine home, good income. Sell separately or together. Cause illness. F. Louradour, Saluda, N. C.



ONE OF THE THREE QUEEN YARDS OF THE OVERBEY APIARIES, BUNKIE, LOUISIANA.

ADVERTISING PAGES INCLUDED

## ❖ OVERBEY APIARIES, BUNKIE, LA. ❖ THE HOME OF GOOD BEEKEEPING

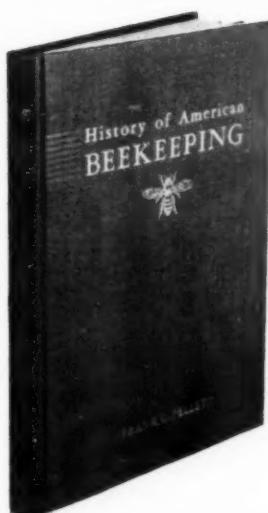
Our 5,000 mother colonies, 10,000 queen nuclei and forty experienced beemen are ready to serve you when you want your bees. Nothing but young worker bees and young prolific queens, make up the full weight in our packages that are constructed of the lightest of material. They are shipped from here on FAST express trains. Visit us and see our two other queen yards, as well as the one pictured above.

Our GUARANTEE OF ABSOLUTE SATISFACTION assures you the very best that your money can buy.

**PRICES:** 2-pound package with Queen . . . . . \$2.45  
3-pound package with Queen . . . . . \$3.15  
Extra Queens . . 75c each -- Less 15% to dealers.

Write for our pictured pamphlet illustrating our 1928-1938 growth.

## TWO NEW BOOKS



**History of American Beekeeping**  
By Frank C. Pellett

This is the only history of beekeeping in America, the only book of its kind in the world, really; for nothing similar has been done for any other beekeeping movement anywhere.

"It is without a doubt the most valuable contribution to beekeeping in years."

Prof. J. A. Munro,  
Head, Department of Entomology,  
North Dakota Agricultural College

Illustrated, Cloth, \$2.50

**First Lessons in Beekeeping**  
By C. P. Dadant

(Revised and rewritten by  
M. G. and J. C. Dadant)

The essential book for amateur or would-be beekeepers.

Illustrated,  
Cloth, \$1.00

**AMERICAN BEE JOURNAL : Hamilton, Illinois**

# The Postscript

## Gossip About the Office in the Making of the Magazine

A letter comes to the office making inquiry as to whether it is safe to keep sheep in the apiary. Sheep are safer among the bees than any other farm animals. Cows, calves, pigs, or horses are likely to make trouble in the apiary but sheep mind their own business and seldom cause any annoyance. They keep down weeds and grass and when, as occasionally happens, they do get stung, they do not upset the hives and tear things up generally. Instead of kicking up a great commotion they are likely to hide heads in a corner and keep quiet until the bees retire.

ABJ

On one occasion my sister-in-law tried to rescue a calf that was on a rampage in the apiary. The more stings the calf received, the greater the commotion, and before quiet was restored both the calf and the girl were badly stung. The girl retired to the cellar and disrobed in order to free herself from the fighting bees which were everywhere in her clothing. Some time elapsed before it was safe for either man or animal to approach those hives.

ABJ

E. E. Salge, of Weslaco, Texas, sends copies of advertising of Texas bakeries using a combination of grapefruit juice and honey in bread. Twelve pounds of honey are used for each 300 loaves of bread, thus providing an important outlet for honey. Should this combination of grapefruit juice and honey come into general use in all American bakeries, there would no longer be any trouble to find a market for all the present output of both honey and fruit.

ABJ

Mr. Salge also comments on planer shavings for smoker fuel and mentions the fact that they burn too fast and have a tendency to fall out of the opening when the smoker is turned downward. He uses dry bark or rotten wood with a little crank-case oil poured over it. This, he says, makes a very dense and cool smoke and the fuel burns slowly, one filling often lasting half a day.

ABJ

Dr. Fred R. Jones, plant pathologist in the University of Wisconsin, has found two diseases to be present in sweet clover fields in the Midwest. One causes decay in the roots in early spring thus thinning a stand that was good the previous fall. The second blackens and stunts the stems in summer. Sweet clover which once grew like a weed now appears to be subject to an accumulation of diseases like other farm crops. Just what this may mean to the future of beekeeping is not yet apparent but it seems probable that it may reduce the amount of sweet clover forage over a wide area.

ABJ

A note from Kenneth Hawkins tells of the birth of an eight pound boy to his daughter Mrs. Mary Rhodes. So another beeman joins the "Granddaddy Club." Yes, Kenneth this being a grandpa is great but just look ahead until you get into my class with nine.

ABJ

When a novice enquires how many bees to buy when making a start, I usually suggest from five to ten colonies. This number provides against the danger of finding himself entirely out of business if anything goes wrong when he starts with only one as it did on two different trials for me. It also insures that some among the number are likely to do very well and thus give the new beekeeper some evidence of what bees can do under favorable conditions.

E. L. Sechrist writes from his home in the South Sea Islands to tell of a land where there is never any winter. Florida butter beans in his garden fruited continuously for two years, giving all the beans they wanted. It is a delight to have a source of beans so steady and with so little trouble. The bees do not do so well there from the standpoint of the beekeeper who wants surplus to sell. With no winter there is no reason for the bees to pile up big reserves and of course brood rearing is a continuous process. Sechrist finds it difficult to maintain strong colonies.

ABJ

Carl M. Teasley, of Ooltewah, Tennessee, tells how the sapsuckers bored holes in the maple trees during the mild weather of January and how the bees came to get the sap. It seems a bit early for the sap to rise but the bees are not likely to overlook any source of sweet when the weather is mild enough to permit them to fly.

ABJ

It may be risky to plunge into beekeeping but so is it dangerous to make a large investment to start any untried venture. When our good friend Guy LeStourgeon first became interested in bees he bought eight hundred colonies and he has continued from that day, as a honey producer, a dealer in supplies or as publisher of a bee magazine. His is the kind of enthusiasm which the industry needs.

ABJ

A correspondent asks for suggestions as to honey plants which will grow in the sandy lands common to a large area in the eastern states. The number of plants which will succeed on light sandy soils is limited, but among them are a few good honey plants. The dwarf sumac, golden aster, milkweed, boneset and button snakeroot or blazing star are all good honey plants which will grow on sandy lands. A great deal could be done to improve the bee pasture in even the poorest location if beekeepers would plan a systematic planting of suitable crops.

ABJ

W. C. Barnard writes from Greenville, Georgia, that the golden aster is naturalized in open woodlands in that locality and that it blooms in September and October. During its period of bloom the bees bring in great quantities of pollen and considerable nectar. The honey is yellow and only fair in quality, but is usually mixed with that from Mexican clover, which improves the quality. With numerous other plants blooming at the same time, it becomes difficult to secure unmixed samples of any source, and thus we remain in doubt as to the value of any one plant alone.

Asters are among the most important honey plants throughout the Southeast. The golden aster belongs to a different group (*Chrysopsis*).

ABJ

Commenting on the mention of partridge pea on this page in the September and October issues, J. N. Pope of Tallulah, Louisiana, reports that he had a surplus flow of about forty pounds about 1929 which he credited to this source as he could not find the bees working on any other plant at the time. The honey was light amber. He is unable to explain why he has not had similar crops before or since. Crops from plants which the bees do not commonly work are very puzzling.

FRANK C. PELLETT.